

21 August 1996

## Data Report

# Dielectric Properties of Soils

Fort Carson, CO

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## Clifton, Peggy

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**From:** George, Vivian Ms PM-MCD [vivian.george@nvt.army.mil]  
**Sent:** Friday, April 27, 2001 9:27 AM  
**To:** 'Clifton, Peggy'  
**Subject:** RE: Distribution on DARPA/Walcoff Documents & Data

\*  
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-----Original Message-----

**From:** Clifton, Peggy [mailto:pclifton@dtic.mil]  
**Sent:** Wednesday, April 11, 2001 9:50 AM  
**To:** 'Vivian George'  
**Subject:** Distribution on DARPA/Walcoff Documents & Data

Vivian,

I am putting in the background clutter data documents and discs; some are marked "Approved for public release, distribution is unlimited," but others have no markings for distribution. Are they all unlimited distribution? If, not we will have to figure out what the distribution levels are for the unmarked documents. TIA,

Peg Clifton

Margaret Clifton  
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"Civilization advances by extending the number  
of important operations which we can perform without thinking about them."  
-Alfred North Whitehead

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Site B - Turkey Creek

Site C - Seabee

Site D - just southeast of C site (Seabee)

## Introduction

This report contains dielectric property measurement results for soils. The original data were collected in the form of the real and imaginary parts of the complex dielectric constant versus frequency. The data collection apparatus was a Hewlett-Packard 8510C Vector Network Analyzer System with an S-Parameter Test Set. Software developed at the U.S. Army Engineer Waterways Experiment Station was used to convert S-parameter measurements at selected frequencies into a complex dielectric constant. The soils were assumed to be nonmagnetic. Other useful electromagnetic properties were calculated from the dielectric constant and frequency, including an equivalent electrical conductivity, the loss tangent, power attenuation, and a normalized phase velocity. The section entitled, "Fundamental Relationships," contains the formulae used to calculate these properties. Additional physical parameters of the soil samples that are included in the report include their dry density, volumetric moisture content, and temperature.

Measurement results and calculated parameters are displayed in three sections. The first includes properties at a selected frequency(ies) and displayed as a function of volumetric moisture content. The intent of presenting data in this way is to demonstrate the experimental observation that the real part of the dielectric constant, as well as the normalized phase velocity are strong functions of volumetric moisture and reasonably independent of soil texture. Other parameters are clearly dependent on soil texture, and, given enough data from several different types of soils, their graphs versus moisture content would show a great deal of scatter. A second set of graphs and tables contain parameters plotted versus frequency for each individual sample tested with the laboratory apparatus. Finally, a third set of graphs contain parameters plotted against frequency for all of the samples. This was done to simply demonstrate that, when viewed as a function of frequency, soil electromagnetic properties are strong functions of moisture and texture.

For additional details on how the data were collected, please contact me at the U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS, (voice: 601-634-2855, FAX: 601-634-2732, e-mail: [curtisj@ex1.wes.army.mil](mailto:curtisj@ex1.wes.army.mil)).

## Source of Soil Samples

The soils whose electromagnetic properties are reported, herein, were collected by Mr. Thomas Berry, from the Environmental Laboratory at the U.S. Army Engineer Waterways Experiment Station, during a visit to Fort Carson, CO, in July of 1996. Mr. Berry was conducting an initial site inspection and site survey at three plots of land that were being considered for use in an ARPA-funded subsurface site characterization project. The three plots were identified as Site B, Site C, and Site D, and their locations are shown on a map of Fort Carson which is included as the last page of this report.

Near surface soils were collected from the four corners of each hectare test site and placed in separate plastic bags. For these electromagnetic property measurements, Mr. Berry combined roughly equal amounts of soil from each corner sample; thus, the data in this report may reflect an average of soil properties at each test site. These results are strictly preliminary. No soil gradation curves have been developed. A complete analysis of additional site samples, including soils from various depths, will be forthcoming.



## Fundamental Relationships

Assuming plane harmonic wave propagation in a lossy, non-magnetic, unbounded medium, the wave amplitude function may be written:

$$e^{i(kx - \omega t)}$$

where

$$k = \beta + i\alpha = \omega N/c$$

$k$  is the complex propagation constant,

$\beta$  is the phase constant,

$\alpha$  is the amplitude attenuation factor,

$\omega$  is the radial frequency,

$N$  is the complex index of refraction,

$c$  is the velocity of light in a vacuum,

$i$  is the symbol designating an imaginary quantity =  $\sqrt{-1}$ ,

$x$  is a space coordinate, and

$t$  is time.

Furthermore,

$$N^2 = \epsilon = \epsilon' + \epsilon''$$

where  $\epsilon$  is the relative complex dielectric constant, which, along with the electrical conductivity from Ohm's Law, represents the electrical properties of the medium. The interpretation of these properties as used in this study is that the conductivity,  $\sigma$ , accounts for current due to free charged particle motion, while the imaginary part of the complex dielectric constant,  $\epsilon''$ , accounts for displacement current losses (those due to the electric polarization of the medium). When both conduction and displacement currents are considered, one finds two terms in Ampere's law for current flow that represent losses (or a shift in phase), one containing the electrical conductivity and one containing the imaginary part of the dielectric constant. While these two terms account

for different loss mechanisms, most researchers use only one term or the other to identify losses, with many users preferring to deal with the concept of electrical conductivity. In MKS units, the relationship between the two quantities is taken to be

$$\sigma = \epsilon''\epsilon_0\omega$$

where the units of conductivity are mhos/meter (or siemens/meter) and  $\epsilon_0$  is the permittivity of free space ( $8.85 \times 10^{-12}$  farads/meter).

Squaring the expression for the complex propagation constant, substituting the expression for the square of the complex index of refraction, and equating real and imaginary components, one obtains two algebraic equations that relate the amplitude attenuation factor and phase constant to the complex dielectric constant:

$$\beta^2 - \alpha^2 = \frac{\omega^2 \epsilon'}{c^2}$$

and

$$\alpha\beta = \frac{\omega^2 \epsilon''}{2c^2}$$

Solving these equations for the amplitude attenuation factor and for the phase constant results in the following expressions:

$$\alpha = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$

and

$$\beta = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{1/2}$$

The  $\epsilon''/\epsilon'$  ratio is also referred to as the loss tangent. Some researchers prefer to work with the electrical conductivity in place of the dielectric loss term.

Plane waves of constant phase will propagate with a velocity

$$v = \frac{\omega}{\beta} = c \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{-1/2}$$

This phase velocity is not necessarily the speed with which the energy of the wave propagates through the

medium. The latter is referred to as the group velocity and can be calculated as the rate of change of radial frequency with respect to the phase constant. However, as long as the phase velocity is relatively constant over the range of frequencies of interest, then there is little difference between phase velocity and group velocity.

The power intensity of the plane electromagnetic wave decreases exponentially with depth of penetration by the factor,  $e^{-2\alpha x}$ , or, in one unit of distance traveled, a decrease of  $e^{-2\alpha}$ . Power attenuation expressed in decibels per meter can then be written as:

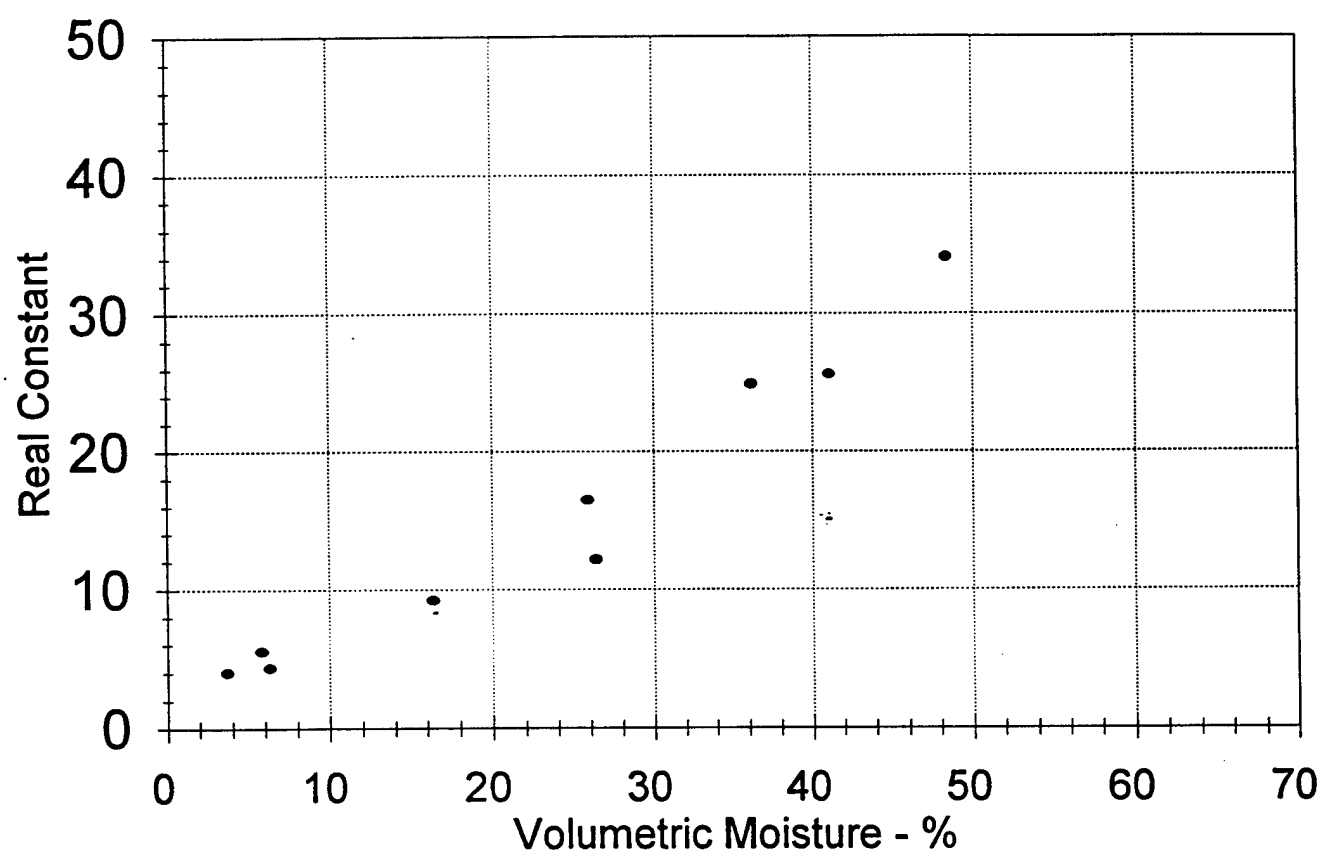
$$PL = -8.6859 \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$

Fort Carson  
Properties at 100 Mhz

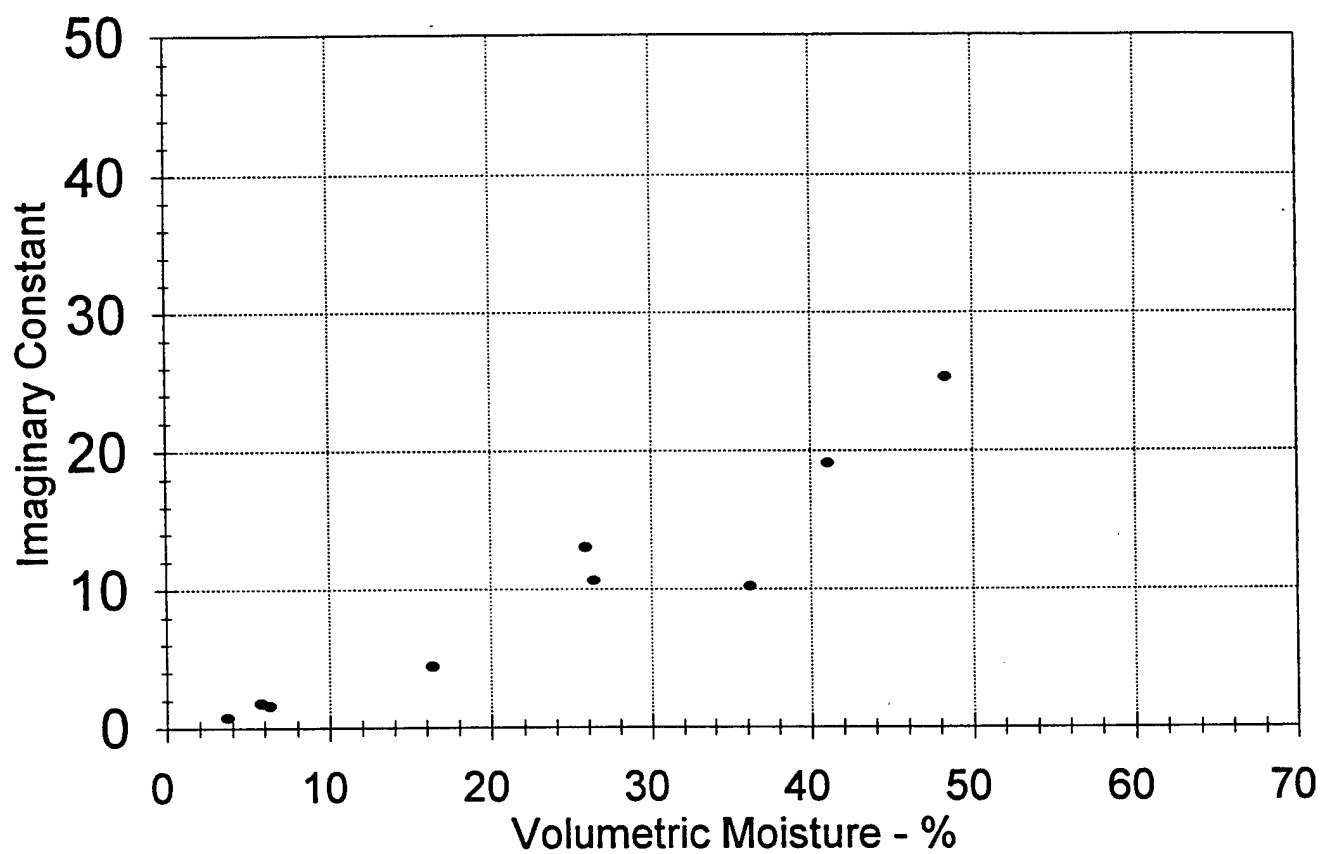
# Fort Carson Soil Properties at 100 MHz

Vol. Moisture - %	Re(Dielectric)	Im(Dielectric)	Cond. - mho/m	Loss Tangent	Attn. - dB/m	Norm. Velocity	
5.83	5.5578	1.7927	0.01	0.3226	6.8307	0.4189	TC
25.9	16.4761	13.0456	0.0725	0.7918	27.4067	0.231	Site B, dry density = 1.57 g/cc
41.1	25.6334	19.1352	0.1064	0.7465	32.4264	0.1863	
6.34	4.3699	1.5956	0.0089	0.3651	6.8334	0.4708	Seabee
26.4	12.1535	10.6328	0.0591	0.8749	25.7099	0.2658	Site C, dry density = 1.25 g/cc
48.4	34.0821	25.3068	0.1407	0.7425	37.2111	0.1617	
3.7	4.0472	0.7803	0.0043	0.1928	3.5119	0.4948	
16.4	9.222	4.4321	0.0246	0.4806	12.9261	0.3206	Site D, dry density = 1.52 g/cc
36.2	24.9461	10.2304	0.0569	0.4101	18.2655	0.1963	

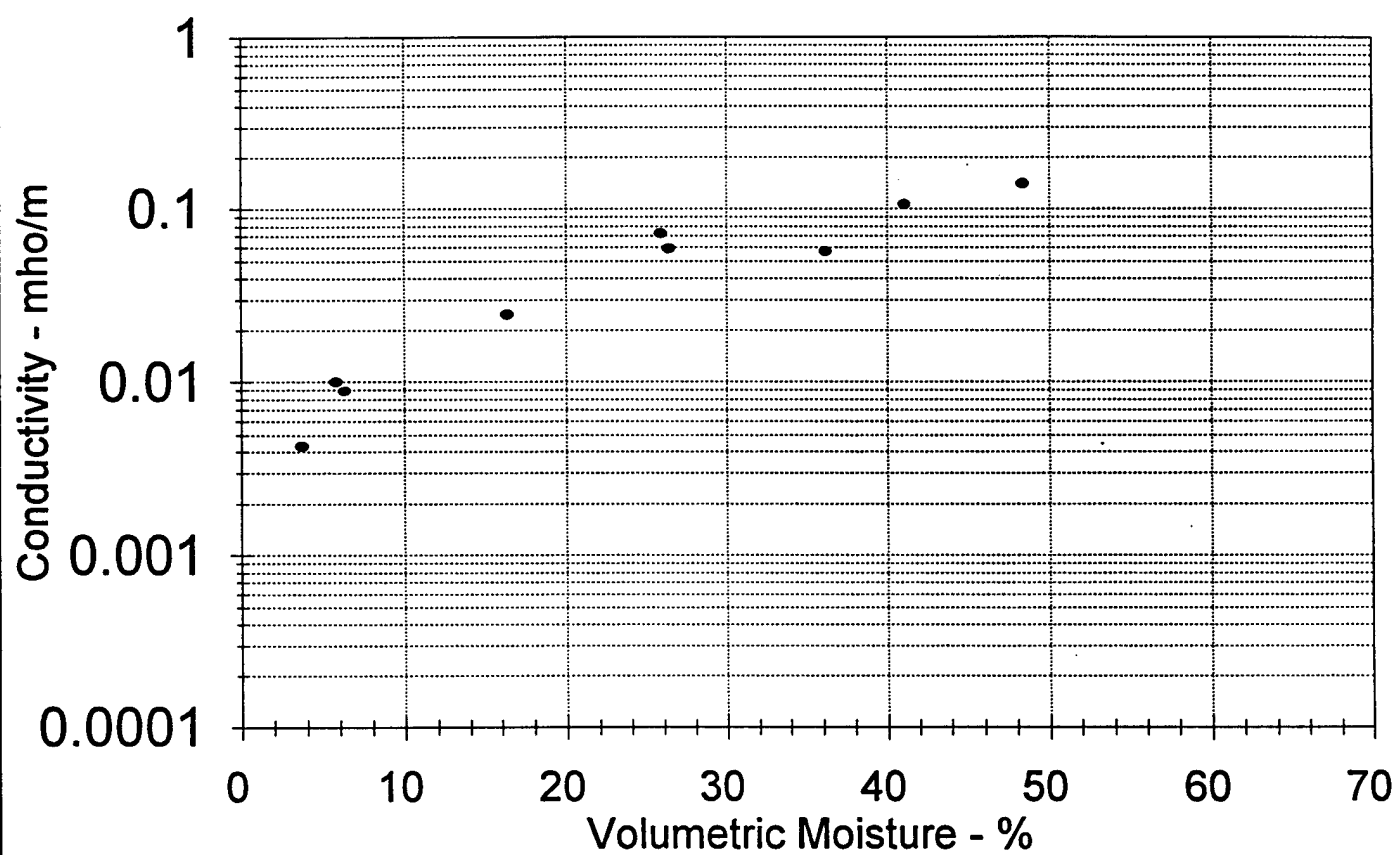
## Fort Carson Soils Properties at 100 MHz



## Fort Carson Soils Properties at 100 MHz

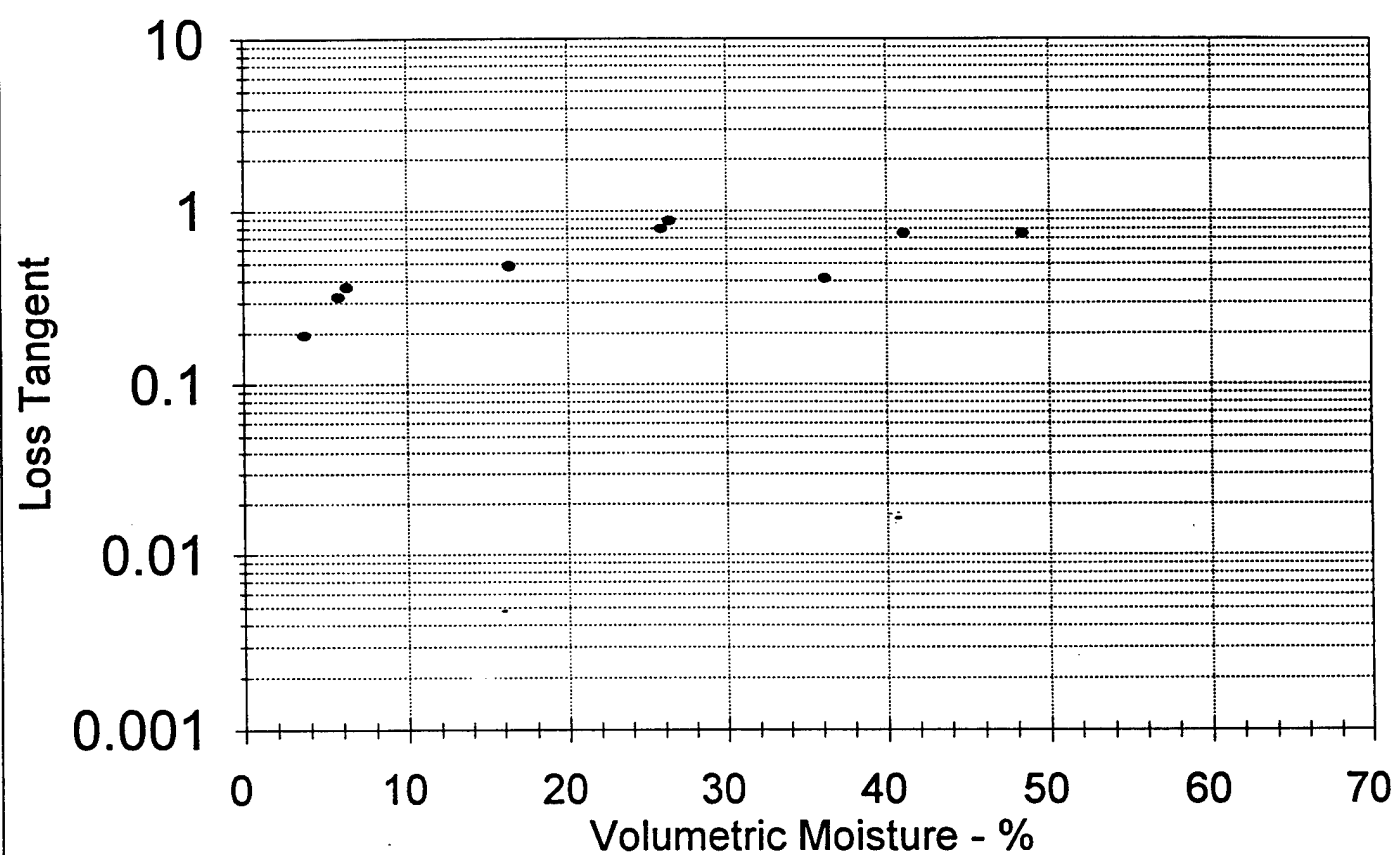


## Fort Carson Soils Properties at 100 MHz

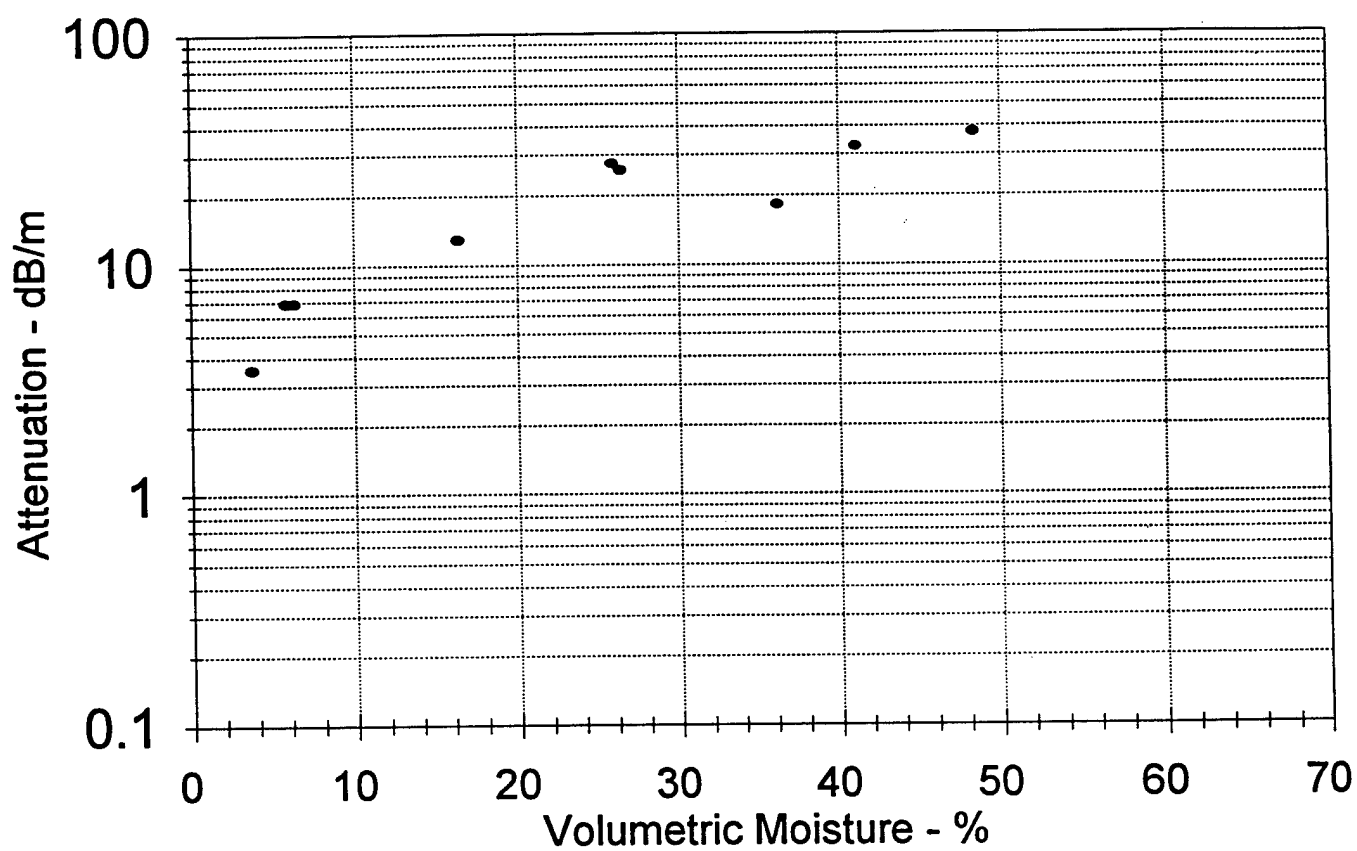




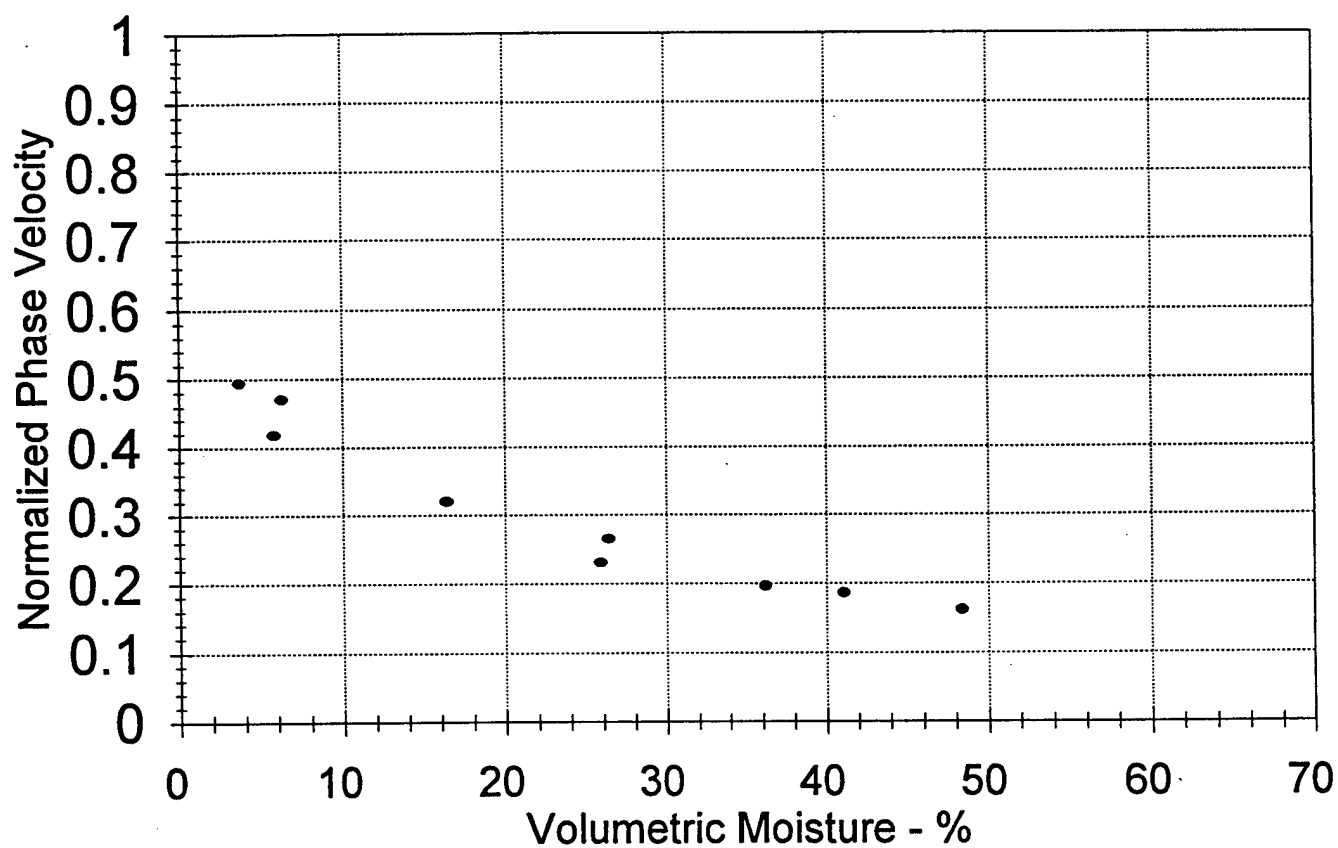
## Fort Carson Soils Properties at 100 MHz



## Fort Carson Soils Properties at 100 MHz



## Fort Carson Soils Properties at 100 MHz



**Fort Carson  
Individual Sample Results**

14AG61434

FT CARSON - B

9.7

2

FT CARSON - B , File: 14AG61434

5.83

20 deg C, Mv = 5.8%, 1.570 g/cc (dry)

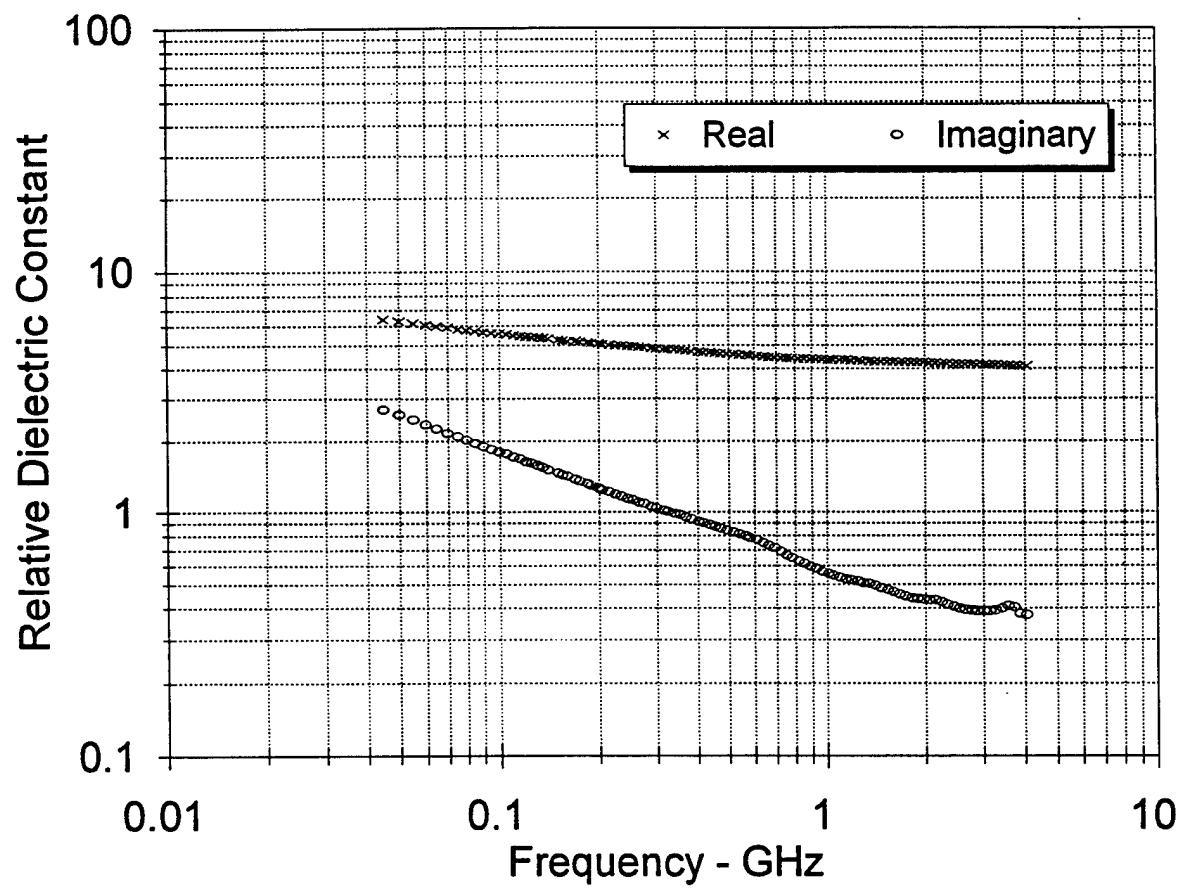
20

1.57

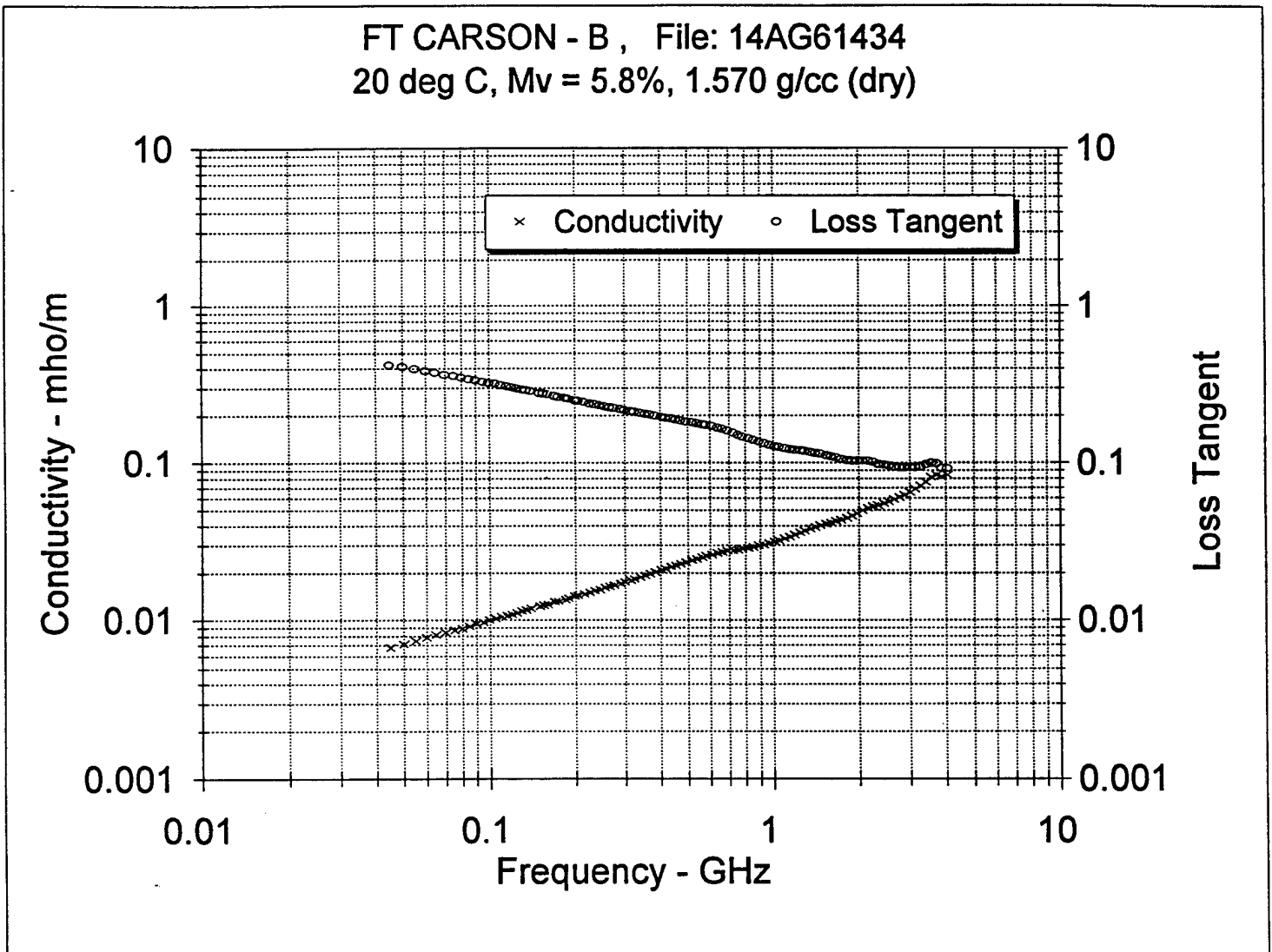
0.045	6.4003	2.6981	0.0068	0.4216	4.2751	0.3871
0.05	6.2737	2.5598	0.0071	0.408	4.5575	0.3915
0.055	6.153	2.4416	0.0075	0.3968	4.8334	0.3957
0.06	6.0749	2.3321	0.0078	0.3839	5.0743	0.3987
0.065	5.9738	2.2372	0.0081	0.3745	5.3224	0.4024
0.07	5.8986	2.1518	0.0084	0.3648	5.5525	0.4053
0.075	5.8259	2.0784	0.0087	0.3567	5.7856	0.4081
0.08	5.761	2.0111	0.0089	0.3491	6.0088	0.4106
0.085	5.7074	1.9498	0.0092	0.3416	6.2224	0.4128
0.09	5.6547	1.8942	0.0095	0.335	6.4337	0.4149
0.095	5.6082	1.8422	0.0097	0.3285	6.6354	0.4168
0.1	5.5578	1.7927	0.01	0.3226	6.8307	0.4189
0.105	5.5324	1.7626	0.0103	0.3186	7.0702	0.42
0.11	5.4824	1.7113	0.0105	0.3121	7.2273	0.4221
0.115	5.448	1.6724	0.0107	0.307	7.4098	0.4236
0.12	5.4177	1.6337	0.0109	0.3016	7.5774	0.4249
0.125	5.3817	1.6029	0.0111	0.2979	7.7723	0.4265
0.13	5.3502	1.5718	0.0114	0.2938	7.9515	0.4278
0.135	5.3233	1.5415	0.0116	0.2896	8.1212	0.429
0.14	5.2958	1.5124	0.0118	0.2856	8.2868	0.4303
0.15	5.247	1.4604	0.0122	0.2783	8.617	0.4325
0.155	5.2243	1.4377	0.0124	0.2752	8.787	0.4335
0.16	5.2016	1.4149	0.0126	0.272	8.9479	0.4345
0.17	5.1617	1.3713	0.013	0.2657	9.2534	0.4364
0.175	5.1427	1.3509	0.0131	0.2627	9.4025	0.4373
0.185	5.1058	1.3153	0.0135	0.2576	9.7162	0.439
0.19	5.0891	1.2976	0.0137	0.255	9.8623	0.4398
0.2	5.059	1.2651	0.0141	0.2501	10.1539	0.4412
0.205	5.0434	1.2476	0.0142	0.2474	10.2816	0.442
0.215	5.0165	1.2199	0.0146	0.2432	10.5743	0.4433
0.225	4.9895	1.1925	0.0149	0.239	10.8494	0.4446
0.235	4.9649	1.169	0.0153	0.2355	11.1388	0.4458
0.245	4.9427	1.1464	0.0156	0.2319	11.416	0.4468
0.255	4.9187	1.1254	0.016	0.2288	11.6944	0.448
0.265	4.8977	1.1054	0.0163	0.2257	11.9649	0.449
0.275	4.8777	1.0876	0.0166	0.223	12.2433	0.45
0.29	4.8505	1.0619	0.0171	0.2189	12.6433	0.4514
0.3	4.8318	1.045	0.0174	0.2163	12.8987	0.4523
0.315	4.8066	1.0215	0.0179	0.2125	13.2762	0.4536
0.325	4.7915	1.008	0.0182	0.2104	13.539	0.4544
0.34	4.7686	0.9884	0.0187	0.2073	13.9238	0.4555
0.355	4.7515	0.9736	0.0192	0.2049	14.348	0.4564
0.37	4.7286	0.9538	0.0196	0.2017	14.6883	0.4576
0.385	4.7089	0.9382	0.0201	0.1992	15.0662	0.4586
0.405	4.6852	0.9179	0.0207	0.1959	15.5474	0.4598
0.42	4.668	0.9038	0.0211	0.1936	15.9072	0.4607
0.44	4.6461	0.8863	0.0217	0.1908	16.3832	0.4619
0.455	4.6302	0.8741	0.0221	0.1888	16.7374	0.4627
0.475	4.6103	0.8585	0.0227	0.1862	17.2013	0.4637

0.495	4.5902	0.8437	0.0232	0.1838	17.6568	0.4648
0.52	4.5665	0.8255	0.0239	0.1808	18.1981	0.4661
0.54	4.5483	0.8125	0.0244	0.1786	18.639	0.4671
0.565	4.5262	0.7966	0.025	0.176	19.1698	0.4682
0.585	4.5084	0.7832	0.0255	0.1737	19.5553	0.4692
0.61	4.4885	0.7668	0.026	0.1708	20.0101	0.4703
0.64	4.4661	0.7469	0.0266	0.1672	20.5039	0.4716
0.665	4.4483	0.7309	0.027	0.1643	20.8922	0.4726
0.695	4.4269	0.7099	0.0274	0.1604	21.2612	0.4738
0.725	4.4089	0.6866	0.0277	0.1557	21.4986	0.4748
0.755	4.3973	0.6631	0.0278	0.1508	21.6541	0.4755
0.785	4.39	0.6462	0.0282	0.1472	21.964	0.476
0.82	4.3798	0.6286	0.0287	0.1435	22.3464	0.4766
0.855	4.3699	0.6128	0.0291	0.1402	22.7416	0.4772
0.895	4.3608	0.5958	0.0297	0.1366	23.1725	0.4778
0.93	4.3532	0.5825	0.0301	0.1338	23.5623	0.4782
0.97	4.3458	0.569	0.0307	0.1309	24.0321	0.4787
1.015	4.3381	0.5559	0.0314	0.1281	24.5899	0.4791
1.055	4.3327	0.5457	0.032	0.126	25.1084	0.4795
1.1	4.3266	0.5367	0.0328	0.124	25.7647	0.4798
1.15	4.3195	0.5294	0.0339	0.1226	26.5949	0.4803
1.195	4.3114	0.5233	0.0348	0.1214	27.3447	0.4807
1.25	4.3007	0.5167	0.0359	0.1201	28.2756	0.4813
1.3	4.2904	0.5108	0.0369	0.1191	29.1084	0.4819
1.36	4.2779	0.504	0.0381	0.1178	30.0922	0.4827
1.415	4.2662	0.4961	0.039	0.1163	30.8611	0.4833
1.475	4.2553	0.4861	0.0399	0.1142	31.5612	0.484
1.54	4.2458	0.4769	0.0408	0.1123	32.3682	0.4845
1.605	4.2363	0.4672	0.0417	0.1103	33.0868	0.4851
1.675	4.2289	0.457	0.0426	0.1081	33.8104	0.4856
1.745	4.2235	0.4482	0.0435	0.1061	34.5704	0.4859
1.82	4.2193	0.4415	0.0447	0.1046	35.5349	0.4862
1.9	4.2145	0.4376	0.0462	0.1038	36.7851	0.4865
1.98	4.2082	0.4351	0.0479	0.1034	38.1523	0.4868
2.065	4.1994	0.4339	0.0498	0.1033	39.7196	0.4873
2.155	4.1871	0.4316	0.0517	0.1031	41.2938	0.4881
2.25	4.1731	0.4241	0.0531	0.1016	42.4341	0.4889
2.345	4.1655	0.4134	0.0539	0.0992	43.1477	0.4894
2.445	4.1602	0.4066	0.0553	0.0977	44.2792	0.4897
2.55	4.1547	0.4	0.0567	0.0963	45.4636	0.49
2.66	4.1508	0.395	0.0584	0.0952	46.8535	0.4903
2.775	4.1468	0.3923	0.0605	0.0946	48.5755	0.4905
2.89	4.1424	0.3905	0.0628	0.0943	50.3855	0.4908
3.015	4.1373	0.3908	0.0655	0.0945	52.6323	0.4911
3.145	4.1311	0.3901	0.0682	0.0944	54.8458	0.4915
3.28	4.1276	0.3925	0.0716	0.0951	57.5661	0.4917
3.42	4.12	0.4012	0.0763	0.0974	61.413	0.4921
3.57	4.101	0.4104	0.0815	0.1001	65.7236	0.4932
3.72	4.0722	0.4051	0.0838	0.0995	67.8384	0.4949
3.88	4.0618	0.3812	0.0822	0.0938	66.6705	0.4956
4.045	4.0631	0.3761	0.0846	0.0926	68.5748	0.4956

FT CARSON - B , File: 14AG61434  
20 deg C, Mv = 5.8%, 1.570 g/cc (dry)

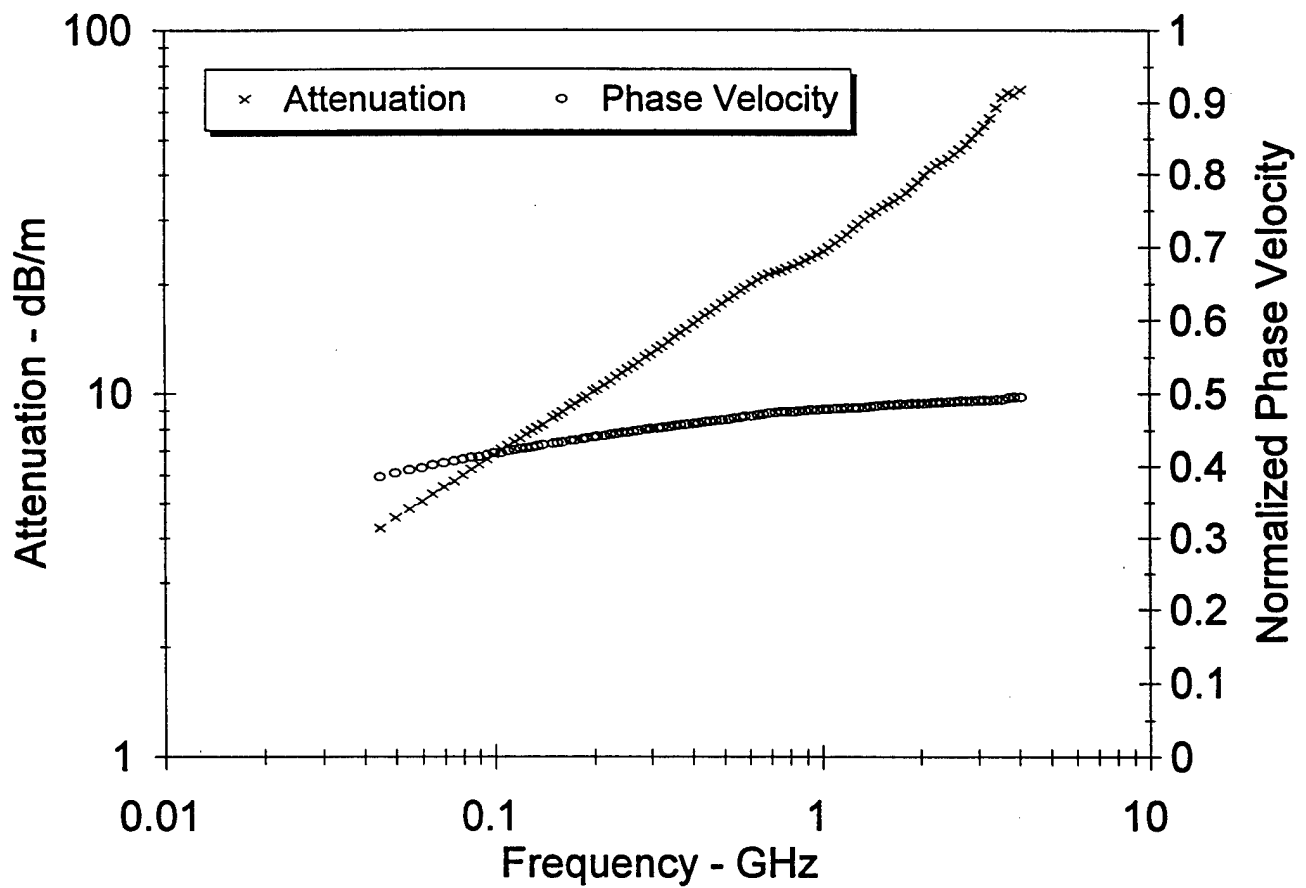


FT CARSON - B , File: 14AG61434  
20 deg C, Mv = 5.8%, 1.570 g/cc (dry)





FT CARSON - B , File: 14AG61434  
20 deg C, Mv = 5.8%, 1.570 g/cc (dry)



12AG61510  
FT CARSON - B

9.7

2

25.9

20

1.57

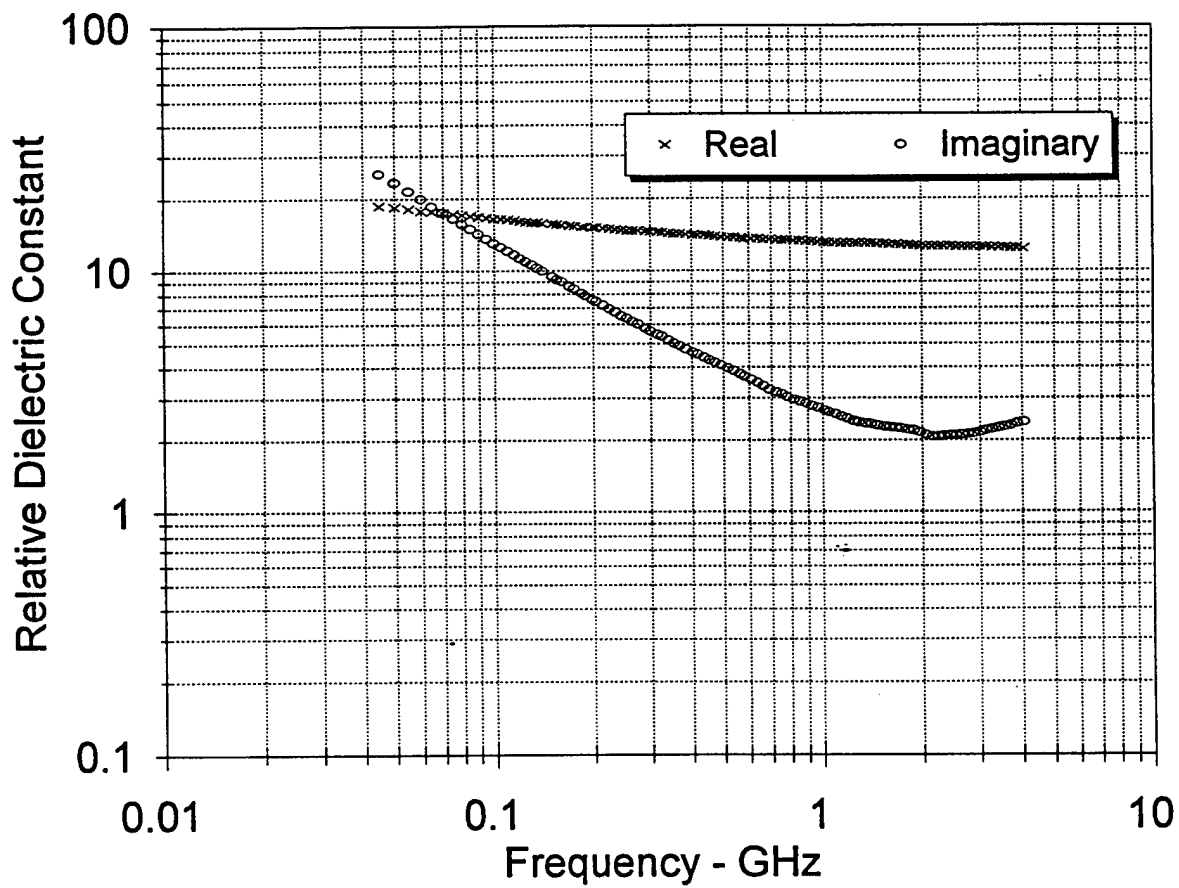
FT CARSON - B , File: 12AG61510

20 deg C, Mv = 25.9%, 1.570 g/cc (dry)

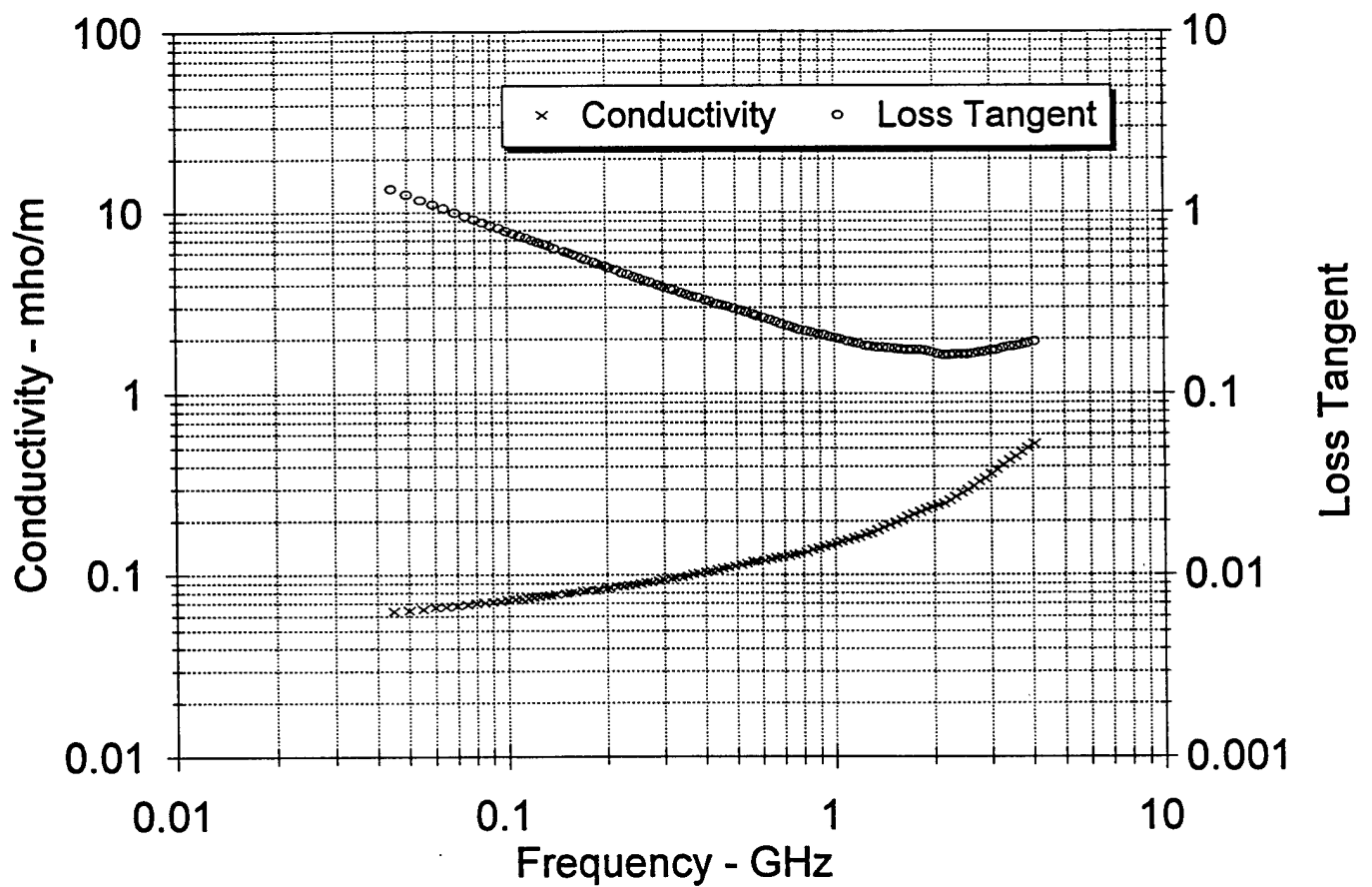
0.045	18.6484	25.2884	0.0633	1.3561	20.6874	0.1999
0.05	18.3298	23.137	0.0643	1.2623	21.5132	0.2044
0.055	18.0523	21.3349	0.0652	1.1818	22.2553	0.2085
0.06	17.8263	19.881	0.0663	1.1153	22.9946	0.2119
0.065	17.5932	18.573	0.0671	1.0557	23.6337	0.2152
0.07	17.4053	17.4613	0.068	1.0032	24.2436	0.2181
0.075	17.2104	16.4989	0.0688	0.9587	24.8433	0.2207
0.08	17.0346	15.6375	0.0696	0.918	25.3938	0.2232
0.085	16.8767	14.8804	0.0703	0.8817	25.9282	0.2254
0.09	16.7312	14.2013	0.0711	0.8488	26.4364	0.2274
0.095	16.6091	13.5936	0.0718	0.8184	26.9225	0.2292
0.1	16.4761	13.0456	0.0725	0.7918	27.4067	0.231
0.105	16.3338	12.4957	0.073	0.765	27.7843	0.2328
0.11	16.2498	12.0873	0.0739	0.7438	28.3087	0.2341
0.115	16.1541	11.6581	0.0746	0.7217	28.713	0.2355
0.12	16.0492	11.262	0.0751	0.7017	29.1132	0.2368
0.125	15.9715	10.9097	0.0758	0.6831	29.5197	0.238
0.13	15.8837	10.5762	0.0765	0.6659	29.9092	0.2392
0.135	15.8026	10.2654	0.0771	0.6496	30.2856	0.2403
0.14	15.7277	9.9785	0.0777	0.6345	30.6595	0.2413
0.15	15.5893	9.4531	0.0788	0.6064	31.3641	0.2432
0.155	15.5257	9.2108	0.0794	0.5933	31.6926	0.2441
0.16	15.4601	8.9852	0.0799	0.5812	32.0267	0.2449
0.17	15.3493	8.5739	0.081	0.5586	32.6726	0.2464
0.175	15.2949	8.3816	0.0816	0.548	32.9771	0.2472
0.185	15.1944	8.0305	0.0826	0.5285	33.584	0.2485
0.19	15.1496	7.8691	0.0831	0.5194	33.8817	0.2491
0.2	15.0656	7.5681	0.0842	0.5023	34.4596	0.2503
0.205	15.0228	7.4275	0.0847	0.4944	34.7429	0.2509
0.215	14.9474	7.1656	0.0857	0.4794	35.2964	0.2519
0.225	14.8792	6.9219	0.0866	0.4652	35.8152	0.2528
0.235	14.8168	6.7092	0.0877	0.4528	36.3784	0.2537
0.245	14.7562	6.4991	0.0885	0.4404	36.8585	0.2545
0.255	14.699	6.3136	0.0895	0.4295	37.3793	0.2553
0.265	14.6465	6.1423	0.0905	0.4194	37.895	0.256
0.275	14.5973	5.9818	0.0915	0.4098	38.3954	0.2566
0.29	14.5248	5.7596	0.0929	0.3965	39.1298	0.2576
0.3	14.4801	5.6249	0.0938	0.3885	39.6214	0.2581
0.315	14.4183	5.441	0.0953	0.3774	40.3673	0.2589
0.325	14.3746	5.324	0.0962	0.3704	40.8394	0.2595
0.34	14.3169	5.1642	0.0976	0.3607	41.5586	0.2602
0.355	14.2498	5.0087	0.0989	0.3515	42.2157	0.261
0.37	14.209	4.8847	0.1005	0.3438	42.9983	0.2616
0.385	14.1572	4.7613	0.1019	0.3363	43.7163	0.2622
0.405	14.0918	4.6097	0.1038	0.3271	44.6576	0.263
0.42	14.0459	4.5069	0.1053	0.3209	45.3742	0.2635
0.44	13.9848	4.3818	0.1072	0.3133	46.342	0.2643
0.455	13.9382	4.2952	0.1087	0.3082	47.0706	0.2648
0.475	13.8774	4.1849	0.1105	0.3016	48.0054	0.2655

0.495	13.8177	4.0818	0.1124	0.2954	48.9202	0.2662
0.52	13.7486	3.9557	0.1144	0.2877	49.9555	0.267
0.54	13.6976	3.8596	0.1159	0.2818	50.7307	0.2676
0.565	13.6375	3.7456	0.1177	0.2747	51.6491	0.2683
0.585	13.5933	3.6588	0.119	0.2692	52.3411	0.2688
0.61	13.5419	3.5552	0.1206	0.2625	53.1552	0.2695
0.64	13.4866	3.4379	0.1223	0.2549	54.0659	0.2701
0.665	13.4475	3.3467	0.1238	0.2489	54.7865	0.2706
0.695	13.4086	3.2454	0.1254	0.242	55.6271	0.2711
0.725	13.3798	3.1554	0.1272	0.2358	56.5007	0.2715
0.755	13.3475	3.0829	0.1294	0.231	57.5723	0.2719
0.785	13.3345	3.0033	0.1311	0.2252	58.3597	0.2721
0.82	13.311	2.939	0.134	0.2208	59.7252	0.2725
0.855	13.2798	2.8859	0.1372	0.2173	61.2319	0.2728
0.895	13.2358	2.8268	0.1407	0.2136	62.8998	0.2733
0.93	13.1978	2.7731	0.1434	0.2101	64.2224	0.2738
0.97	13.1585	2.714	0.1464	0.2063	65.6666	0.2742
1.015	13.1201	2.6525	0.1497	0.2022	67.2674	0.2747
1.055	13.0892	2.6007	0.1526	0.1987	68.6457	0.2751
1.1	13.0596	2.5473	0.1558	0.1951	70.1964	0.2754
1.15	13.0279	2.4918	0.1593	0.1913	71.8889	0.2758
1.195	13.0037	2.447	0.1626	0.1882	73.4378	0.2761
1.25	12.9816	2.3968	0.1666	0.1846	75.3169	0.2764
1.3	12.9701	2.36	0.1706	0.182	77.1694	0.2765
1.36	12.9527	2.3325	0.1764	0.1801	79.8529	0.2767
1.415	12.9289	2.3156	0.1822	0.1791	82.5596	0.277
1.475	12.898	2.2958	0.1883	0.178	85.4307	0.2774
1.54	12.8683	2.2729	0.1946	0.1766	88.4099	0.2777
1.605	12.8404	2.2546	0.2012	0.1756	91.5048	0.278
1.675	12.8077	2.2416	0.2088	0.175	95.0702	0.2784
1.745	12.7687	2.2297	0.2164	0.1746	98.6663	0.2788
1.82	12.7228	2.2096	0.2236	0.1737	102.1688	0.2793
1.9	12.6783	2.1803	0.2303	0.172	105.4359	0.2798
1.98	12.6436	2.1427	0.2359	0.1695	108.1398	0.2802
2.065	12.6223	2.0976	0.2409	0.1662	110.5158	0.2805
2.155	12.6284	2.0604	0.2469	0.1632	113.2775	0.2805
2.25	12.6406	2.0599	0.2577	0.163	118.1819	0.2803
2.345	12.6274	2.0727	0.2703	0.1641	123.9989	0.2805
2.445	12.6039	2.0788	0.2826	0.1649	129.7828	0.2807
2.55	12.5842	2.0797	0.2949	0.1653	135.5215	0.2809
2.66	12.5678	2.0928	0.3096	0.1665	142.3438	0.2811
2.775	12.5437	2.1111	0.3258	0.1683	149.9286	0.2814
2.89	12.5184	2.1262	0.3417	0.1698	157.4042	0.2816
3.015	12.4994	2.1462	0.3598	0.1717	165.8693	0.2818
3.145	12.4818	2.18	0.3812	0.1747	175.8536	0.282
3.28	12.4525	2.2149	0.404	0.1779	186.5313	0.2823
3.42	12.4237	2.2443	0.4268	0.1806	197.2787	0.2826
3.57	12.396	2.2703	0.4507	0.1832	208.5275	0.2829
3.72	12.3705	2.3007	0.4759	0.186	220.3922	0.2831
3.88	12.3346	2.3286	0.5024	0.1888	232.9701	0.2835
4.045	12.3012	2.3599	0.5308	0.1918	246.4423	0.2838

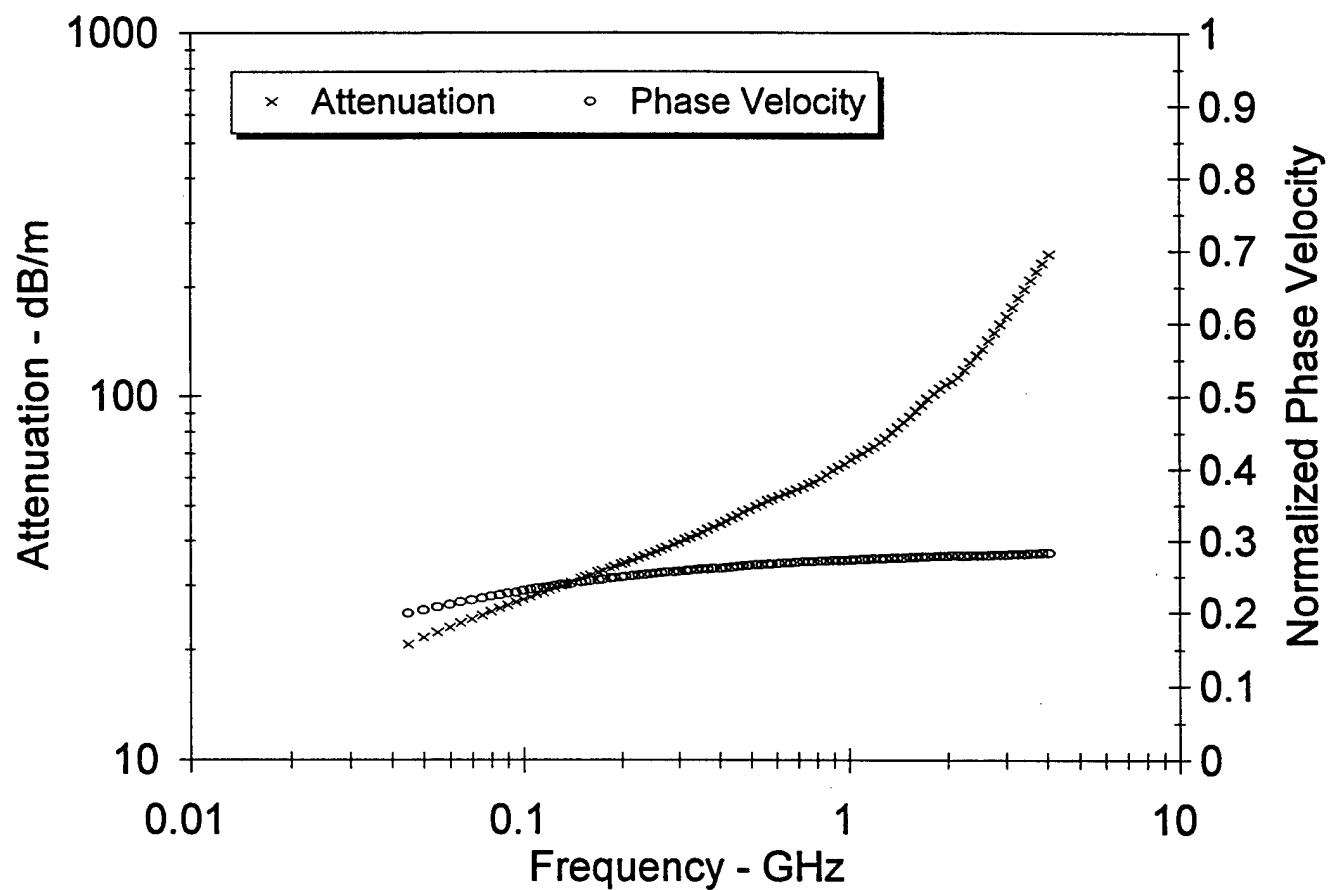
FT CARSON - B , File: 12AG61510  
20 deg C, Mv = 25.9%, 1.570 g/cc (dry)



FT CARSON - B , File: 12AG61510  
20 deg C, Mv = 25.9%, 1.570 g/cc (dry)



FT CARSON - B , File: 12AG61510  
20 deg C, Mv = 25.9%, 1.570 g/cc (dry)



14AG61526  
FT CARSON - B

9.7

2

FT CARSON - B , File: 14AG61526

41.1

20 deg C, Mv = 41.1%, 1.570 g/cc (dry)

20

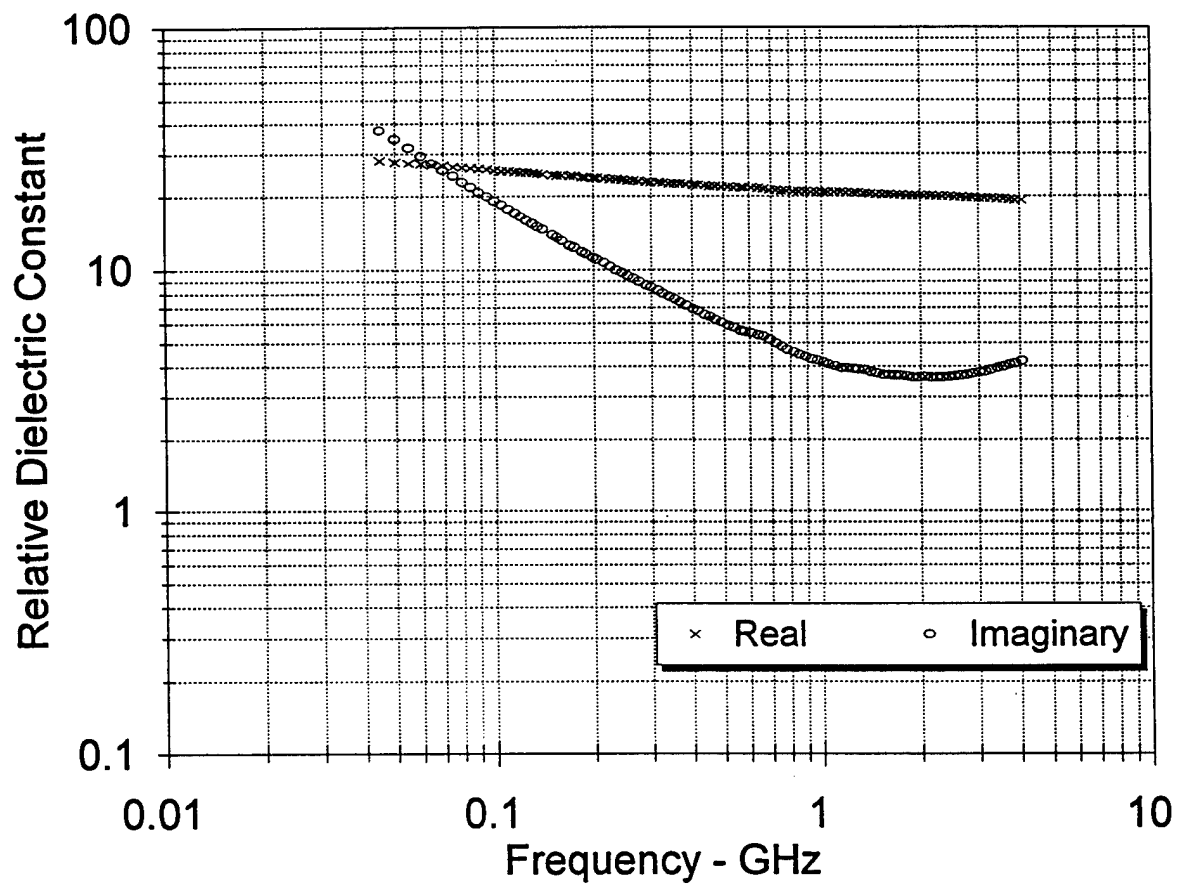
1.57

0.045	28.0344	37.6407	0.0942	1.3427	25.1646	0.1633
0.05	27.7196	34.3819	0.0956	1.2403	26.0821	0.1668
0.055	27.4226	31.6239	0.0967	1.1532	26.8801	0.1699
0.06	27.2016	29.3238	0.0978	1.078	27.6088	0.1725
0.065	26.9379	27.4056	0.0991	1.0174	28.3423	0.1749
0.07	26.7373	25.7359	0.1002	0.9625	29.0015	0.177
0.075	26.5023	24.2819	0.1013	0.9162	29.6447	0.179
0.08	26.2991	22.9863	0.1023	0.874	30.2303	0.1807
0.085	26.129	21.8776	0.1034	0.8373	30.8284	0.1823
0.09	25.9522	20.8644	0.1044	0.804	31.3803	0.1837
0.095	25.7971	19.9555	0.1054	0.7736	31.9076	0.185
0.1	25.6334	19.1352	0.1064	0.7465	32.4264	0.1863
0.105	25.5105	18.4108	0.1075	0.7217	32.9453	0.1874
0.11	25.3663	17.7202	0.1084	0.6986	33.4142	0.1885
0.115	25.2349	17.0993	0.1093	0.6776	33.8874	0.1895
0.12	25.1075	16.513	0.1102	0.6577	34.3208	0.1904
0.125	25.0024	15.9945	0.1112	0.6397	34.7786	0.1912
0.13	24.8919	15.5138	0.1121	0.6232	35.2313	0.1921
0.135	24.7916	15.0652	0.1131	0.6077	35.6672	0.1928
0.14	24.6903	14.6446	0.114	0.5931	36.0914	0.1935
0.15	24.5083	13.899	0.1159	0.5671	36.9483	0.1948
0.155	24.4228	13.5617	0.1169	0.5553	37.369	0.1954
0.16	24.3409	13.2367	0.1178	0.5438	37.762	0.196
0.17	24.1753	12.6514	0.1196	0.5233	38.5661	0.1971
0.175	24.1029	12.3788	0.1205	0.5136	38.9445	0.1976
0.185	23.9661	11.882	0.1222	0.4958	39.7051	0.1986
0.19	23.9021	11.6561	0.1231	0.4877	40.0906	0.199
0.2	23.7855	11.2302	0.1249	0.4721	40.8231	0.1998
0.205	23.727	11.0306	0.1257	0.4649	41.1804	0.2002
0.215	23.6168	10.664	0.1275	0.4515	41.9067	0.2009
0.225	23.518	10.3241	0.1292	0.439	42.599	0.2016
0.235	23.4175	10.0141	0.1309	0.4276	43.2958	0.2023
0.245	23.3273	9.725	0.1325	0.4169	43.9637	0.2029
0.255	23.2304	9.4553	0.1341	0.407	44.622	0.2035
0.265	23.1425	9.2048	0.1356	0.3977	45.2667	0.204
0.275	23.0633	8.9761	0.1373	0.3892	45.9212	0.2045
0.29	22.9463	8.6577	0.1396	0.3773	46.875	0.2053
0.3	22.87	8.4595	0.1411	0.3699	47.4903	0.2057
0.315	22.7588	8.181	0.1433	0.3595	48.3827	0.2064
0.325	22.6883	8.0073	0.1447	0.3529	48.9607	0.2068
0.34	22.5919	7.7638	0.1468	0.3437	49.8053	0.2074
0.355	22.5058	7.5385	0.1488	0.335	50.6247	0.208
0.37	22.4175	7.3226	0.1507	0.3266	51.3861	0.2085
0.385	22.3411	7.1239	0.1525	0.3189	52.1375	0.209
0.405	22.2469	6.8854	0.1551	0.3095	53.1585	0.2096
0.42	22.1839	6.7212	0.157	0.303	53.9136	0.21
0.44	22.1026	6.5205	0.1595	0.295	54.9262	0.2105
0.455	22.0486	6.3816	0.1615	0.2894	55.6782	0.2108
0.475	21.9834	6.2098	0.164	0.2825	56.6707	0.2112

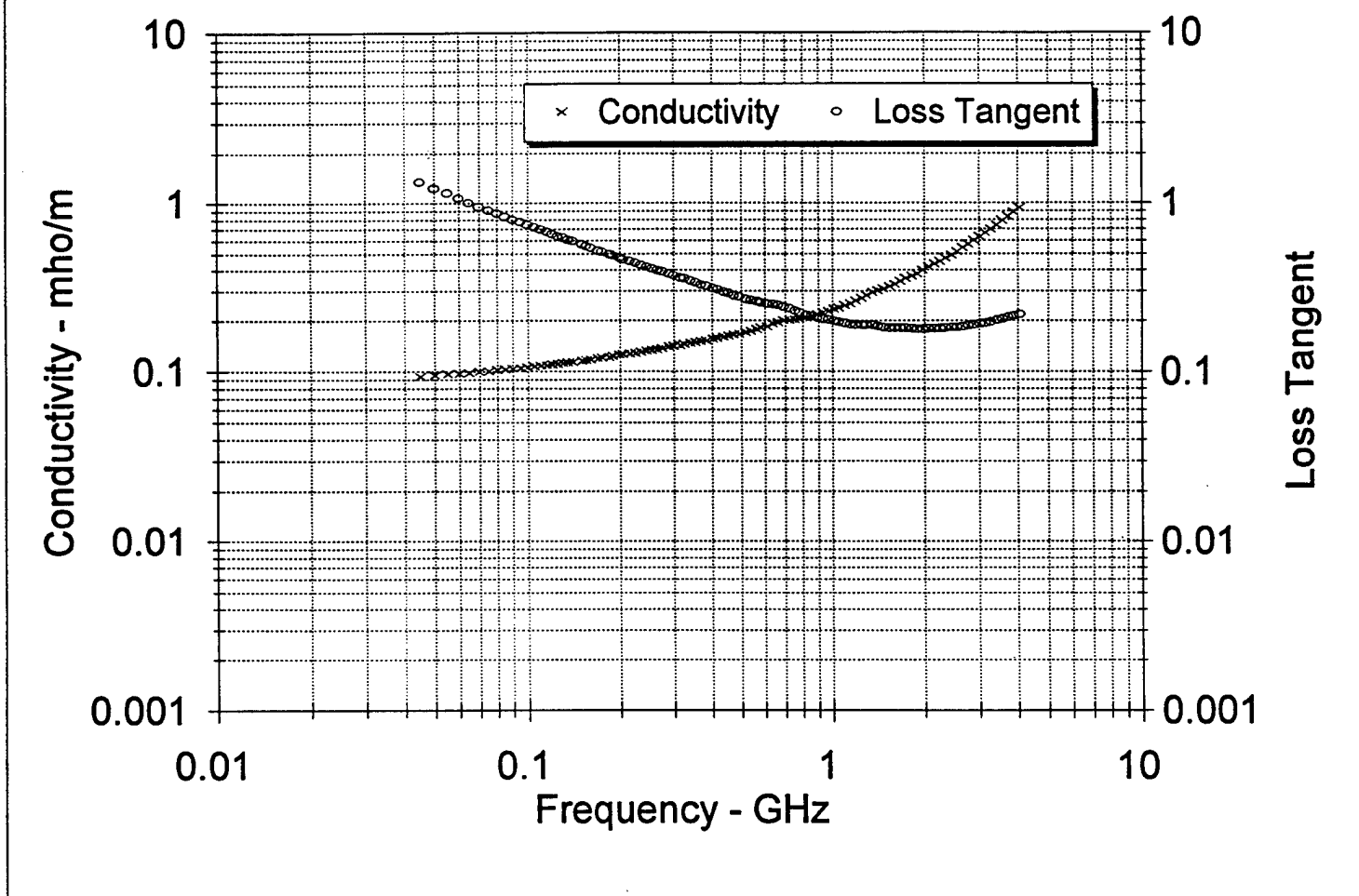
0.495	21.9232	6.0547	0.1667	0.2762	57.6849	0.2116
0.52	21.8614	5.8785	0.17	0.2689	58.9452	0.212
0.54	21.8162	5.7553	0.1728	0.2638	60.0114	0.2123
0.565	21.7657	5.6252	0.1767	0.2584	61.4619	0.2126
0.585	21.7223	5.54	0.1802	0.255	62.7486	0.2129
0.61	21.6564	5.4602	0.1852	0.2521	64.5972	0.2132
0.64	21.5358	5.3809	0.1915	0.2499	66.9867	0.2138
0.665	21.4054	5.2931	0.1957	0.2473	68.6855	0.2145
0.695	21.2591	5.1434	0.1988	0.2419	70.0151	0.2153
0.725	21.1626	4.9681	0.2003	0.2348	70.7391	0.2159
0.755	21.1139	4.8335	0.2029	0.2289	71.7762	0.2162
0.785	21.0777	4.675	0.2041	0.2218	72.2702	0.2165
0.82	21.0471	4.5546	0.2077	0.2164	73.6222	0.2167
0.855	21.0111	4.4592	0.212	0.2122	75.2383	0.217
0.895	20.9682	4.3657	0.2173	0.2082	77.2011	0.2172
0.93	20.9332	4.2924	0.222	0.205	78.9507	0.2174
0.97	20.8909	4.2205	0.2276	0.202	81.0626	0.2177
1.015	20.8378	4.1433	0.2338	0.1988	83.3904	0.218
1.055	20.7978	4.0717	0.2389	0.1958	85.2726	0.2182
1.1	20.7677	3.9999	0.2447	0.1926	87.4194	0.2184
1.15	20.7438	3.9445	0.2522	0.1902	90.1882	0.2186
1.195	20.7201	3.9152	0.2602	0.189	93.0795	0.2187
1.25	20.6832	3.897	0.2709	0.1884	97.0006	0.2189
1.3	20.6322	3.8898	0.2812	0.1885	100.8168	0.2192
1.36	20.5318	3.8698	0.2926	0.1885	105.1836	0.2197
1.415	20.4443	3.8113	0.2999	0.1864	108.0238	0.2202
1.475	20.3988	3.7389	0.3067	0.1833	110.6055	0.2205
1.54	20.3769	3.6925	0.3162	0.1812	114.1171	0.2206
1.605	20.3478	3.6787	0.3283	0.1808	118.5787	0.2208
1.675	20.2952	3.6743	0.3422	0.181	123.758	0.2211
1.745	20.2315	3.6574	0.3549	0.1808	128.5421	0.2214
1.82	20.1741	3.6225	0.3666	0.1796	132.9842	0.2218
1.9	20.141	3.5921	0.3795	0.1783	137.7851	0.2219
1.98	20.1151	3.5936	0.3957	0.1787	143.7366	0.2221
2.065	20.0625	3.6031	0.4137	0.1796	150.4929	0.2224
2.155	20.0065	3.5989	0.4313	0.1799	157.0871	0.2227
2.25	19.9636	3.5897	0.4491	0.1798	163.7678	0.2229
2.345	19.9297	3.5978	0.4691	0.1805	171.2073	0.2231
2.445	19.891	3.6125	0.4911	0.1816	179.4034	0.2233
2.55	19.8504	3.6333	0.5152	0.183	188.3642	0.2235
2.66	19.8085	3.6613	0.5416	0.1848	198.2023	0.2237
2.775	19.7597	3.6949	0.5702	0.187	208.9055	0.224
2.89	19.7119	3.7243	0.5985	0.1889	219.5398	0.2242
3.015	19.6681	3.7553	0.6296	0.1909	231.1731	0.2245
3.145	19.6272	3.7979	0.6642	0.1935	244.1032	0.2247
3.28	19.5808	3.8539	0.7029	0.1968	258.6001	0.2249
3.42	19.5312	3.9129	0.7441	0.2003	274.0666	0.2252
3.57	19.475	3.981	0.7903	0.2044	291.4296	0.2254
3.72	19.4122	4.0494	0.8376	0.2086	309.3283	0.2258
3.88	19.3418	4.1207	0.8891	0.213	328.834	0.2261
4.045	19.2754	4.1918	0.9428	0.2175	349.2502	0.2265



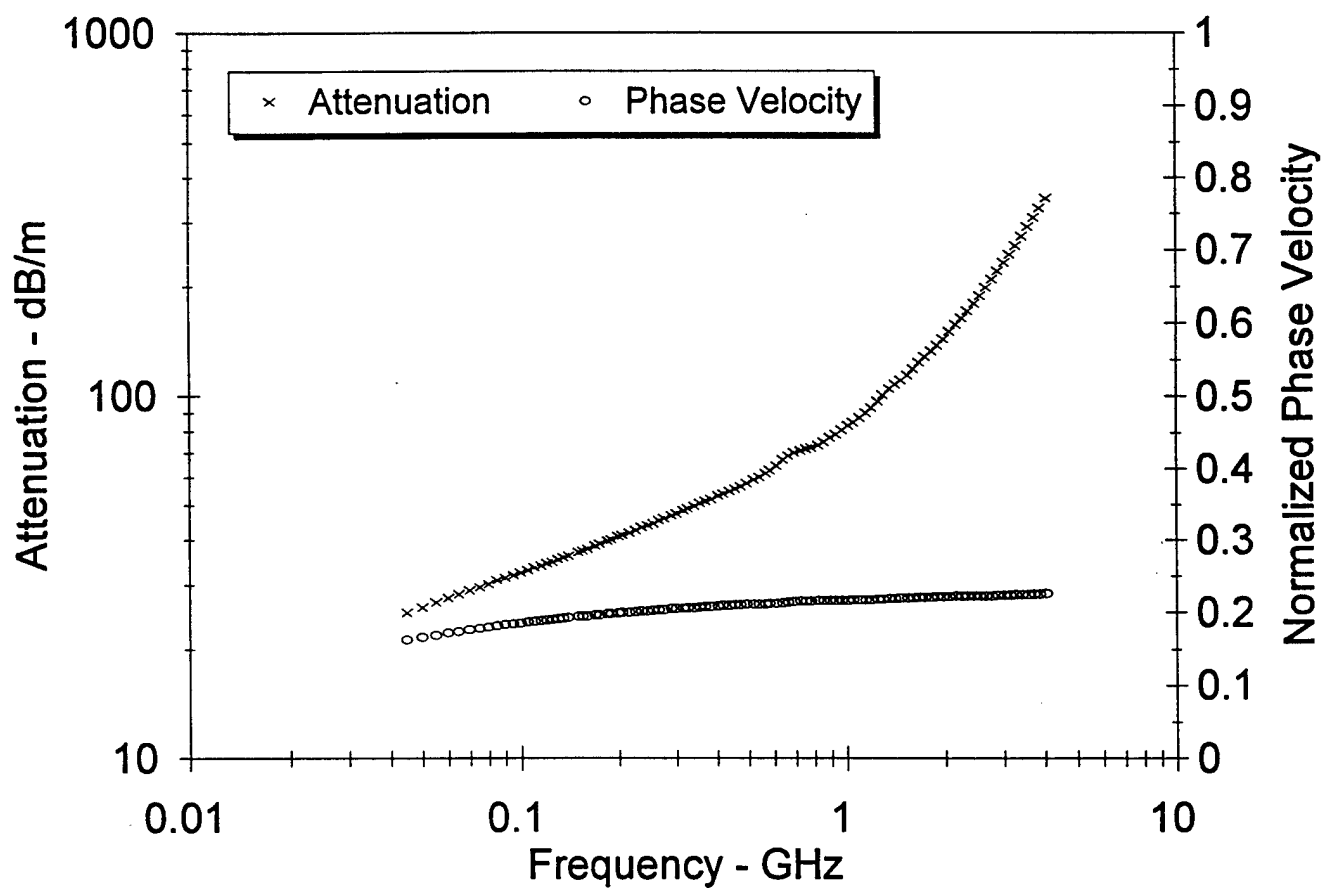
FT CARSON - B , File: 14AG61526  
20 deg C, Mv = 41.1%, 1.570 g/cc (dry)



FT CARSON - B , File: 14AG61526  
20 deg C, Mv = 41.1%, 1.570 g/cc (dry)



FT CARSON - B , File: 14AG61526  
20 deg C, Mv = 41.1%, 1.570 g/cc (dry)



14AG61453  
FT CARSON - C

9.7

3

6.34

20

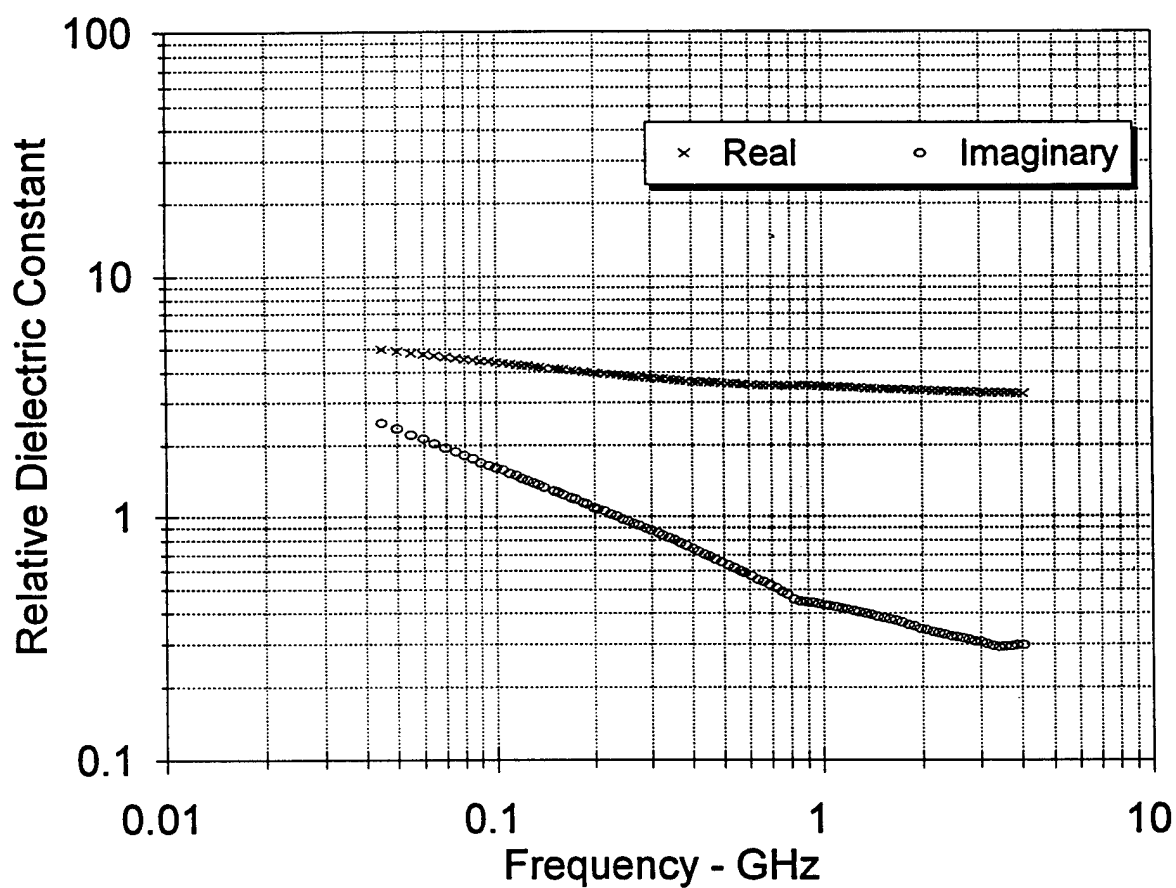
1.25

FT CARSON - C , File: 14AG61453  
20 deg C, Mv = 6.3%, 1.250 g/cc (dry)

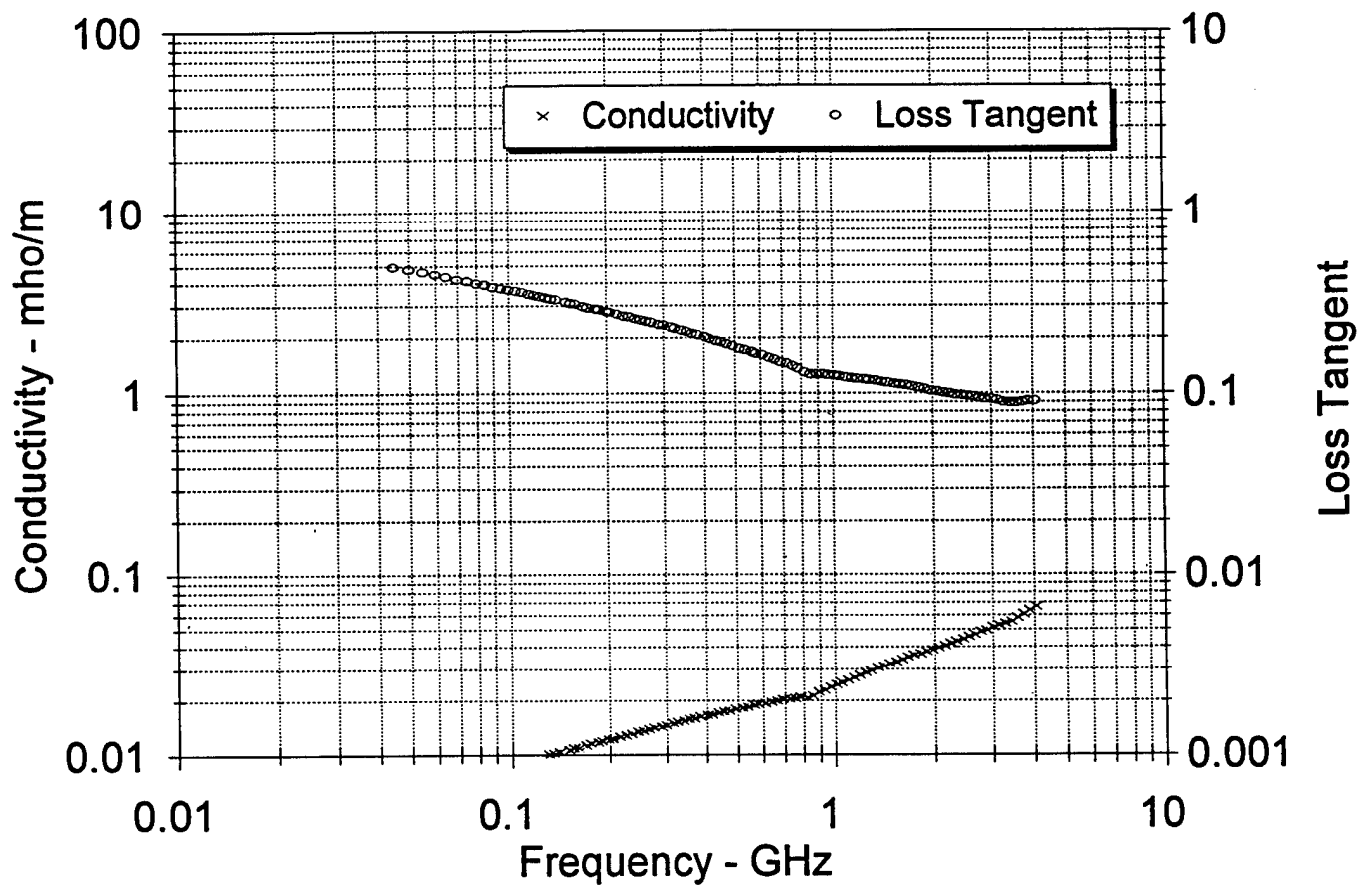
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0.05	4.8778	2.3299	0.0065	0.4776	4.6729	0.441
0.055	4.7994	2.2096	0.0068	0.4604	4.923	0.4454
0.06	4.7349	2.1181	0.0071	0.4473	5.1898	0.449
0.065	4.674	2.0164	0.0073	0.4314	5.3953	0.4526
0.07	4.6235	1.9371	0.0075	0.419	5.6189	0.4556
0.075	4.5689	1.8653	0.0078	0.4083	5.8373	0.4587
0.08	4.5223	1.7991	0.008	0.3978	6.042	0.4615
0.085	4.4814	1.7451	0.0082	0.3894	6.2598	0.464
0.09	4.4277	1.6841	0.0084	0.3804	6.4403	0.4671
0.095	4.4099	1.6418	0.0087	0.3723	6.6454	0.4684
0.1	4.3699	1.5956	0.0089	0.3651	6.8334	0.4708
0.105	4.3528	1.5695	0.0092	0.3606	7.074	0.4719
0.11	4.3101	1.5201	0.0093	0.3527	7.218	0.4746
0.115	4.2822	1.4831	0.0095	0.3463	7.3901	0.4764
0.12	4.2585	1.4491	0.0097	0.3403	7.5588	0.4779
0.125	4.2298	1.4193	0.0099	0.3356	7.7411	0.4797
0.13	4.2045	1.3904	0.0101	0.3307	7.9132	0.4813
0.135	4.1835	1.3608	0.0102	0.3253	8.0661	0.4827
0.14	4.1612	1.3326	0.0104	0.3202	8.2165	0.4842
0.15	4.1217	1.285	0.0107	0.3118	8.5353	0.4868
0.155	4.1022	1.263	0.0109	0.3079	8.6916	0.4881
0.16	4.0844	1.2407	0.011	0.3038	8.835	0.4893
0.17	4.0494	1.1998	0.0113	0.2963	9.122	0.4917
0.175	4.0336	1.1799	0.0115	0.2925	9.2549	0.4928
0.185	4.0018	1.145	0.0118	0.2861	9.5359	0.4949
0.19	3.9873	1.1275	0.0119	0.2828	9.6641	0.496
0.2	3.9593	1.0894	0.0121	0.2751	9.8685	0.498
0.205	3.9515	1.0786	0.0123	0.273	10.026	0.4985
0.215	3.9255	1.0522	0.0126	0.268	10.2949	0.5003
0.225	3.9053	1.0274	0.0129	0.2631	10.5502	0.5018
0.235	3.8811	1.0036	0.0131	0.2586	10.8004	0.5035
0.245	3.8622	0.9811	0.0134	0.254	11.0377	0.5048
0.255	3.8413	0.9608	0.0136	0.2501	11.2835	0.5063
0.265	3.8229	0.9404	0.0139	0.246	11.5074	0.5077
0.275	3.8054	0.9223	0.0141	0.2424	11.7413	0.509
0.29	3.782	0.8948	0.0144	0.2366	12.0543	0.5107
0.3	3.7676	0.8774	0.0146	0.2329	12.2527	0.5118
0.315	3.7469	0.8543	0.015	0.228	12.5651	0.5133
0.325	3.7344	0.8386	0.0152	0.2246	12.7495	0.5143
0.34	3.7164	0.8171	0.0154	0.2199	13.0303	0.5157
0.355	3.7044	0.8	0.0158	0.2159	13.344	0.5166
0.37	3.6859	0.7785	0.016	0.2112	13.5723	0.518
0.385	3.672	0.7605	0.0163	0.2071	13.8247	0.5191
0.405	3.6553	0.7366	0.0166	0.2015	14.1217	0.5204
0.42	3.6443	0.7208	0.0168	0.1978	14.3561	0.5213
0.44	3.6282	0.7007	0.0171	0.1931	14.655	0.5226
0.455	3.6178	0.6865	0.0174	0.1897	14.87	0.5234
0.475	3.6046	0.6681	0.0176	0.1853	15.139	0.5245

0.495	3.5919	0.6512	0.0179	0.1813	15.4082	0.5255
0.52	3.5774	0.6307	0.0182	0.1763	15.7109	0.5267
0.54	3.567	0.616	0.0185	0.1727	15.9608	0.5275
0.565	3.5552	0.5989	0.0188	0.1685	16.2672	0.5285
0.585	3.546	0.5863	0.0191	0.1653	16.5113	0.5293
0.61	3.536	0.5705	0.0194	0.1614	16.7805	0.5301
0.64	3.5253	0.5518	0.0196	0.1565	17.0575	0.531
0.665	3.5184	0.539	0.0199	0.1532	17.33	0.5316
0.695	3.5091	0.5233	0.0202	0.1491	17.612	0.5324
0.725	3.4999	0.5093	0.0205	0.1455	17.905	0.5331
0.755	3.4909	0.491	0.0206	0.1407	18.0028	0.5339
0.785	3.4833	0.4787	0.0209	0.1374	18.2696	0.5345
0.82	3.4823	0.4562	0.0208	0.131	18.1948	0.5347
0.855	3.4909	0.4465	0.0212	0.1279	18.5483	0.5341
0.895	3.4912	0.4453	0.0222	0.1275	19.3609	0.5341
0.93	3.4859	0.443	0.0229	0.1271	20.0324	0.5345
0.97	3.4779	0.4392	0.0237	0.1263	20.7374	0.5352
1.015	3.4706	0.4348	0.0245	0.1253	21.5034	0.5357
1.055	3.4637	0.4297	0.0252	0.1241	22.1133	0.5363
1.1	3.4559	0.4252	0.026	0.123	22.8441	0.5369
1.15	3.4478	0.4209	0.0269	0.1221	23.6694	0.5376
1.195	3.4393	0.4161	0.0276	0.121	24.3426	0.5382
1.25	3.429	0.4102	0.0285	0.1196	25.1406	0.5391
1.3	3.4203	0.4051	0.0293	0.1184	25.8529	0.5398
1.36	3.4113	0.4	0.0303	0.1173	26.7476	0.5405
1.415	3.4032	0.3949	0.0311	0.116	27.5045	0.5412
1.475	3.3944	0.3886	0.0319	0.1145	28.2507	0.5419
1.54	3.3865	0.3834	0.0328	0.1132	29.1366	0.5425
1.605	3.3789	0.379	0.0338	0.1122	30.0535	0.5432
1.675	3.3691	0.3746	0.0349	0.1112	31.0491	0.544
1.745	3.3591	0.3677	0.0357	0.1095	31.7951	0.5448
1.82	3.3518	0.3603	0.0365	0.1075	32.5302	0.5454
1.9	3.345	0.3538	0.0374	0.1058	33.3842	0.546
1.98	3.3385	0.3476	0.0383	0.1041	34.2174	0.5466
2.065	3.3328	0.3424	0.0393	0.1027	35.1855	0.547
2.155	3.3266	0.3367	0.0404	0.1012	36.1442	0.5476
2.25	3.3214	0.3321	0.0415	0.1	37.2439	0.548
2.345	3.3156	0.3274	0.0427	0.0988	38.3084	0.5485
2.445	3.3104	0.3229	0.0439	0.0975	39.4226	0.549
2.55	3.3051	0.3204	0.0454	0.0969	40.8302	0.5494
2.66	3.2978	0.3166	0.0468	0.096	42.1338	0.55
2.775	3.2919	0.3123	0.0482	0.0949	43.3966	0.5505
2.89	3.2864	0.308	0.0495	0.0937	44.6097	0.551
3.015	3.2806	0.3041	0.051	0.0927	45.9908	0.5515
3.145	3.2759	0.3	0.0525	0.0916	47.3599	0.5519
3.28	3.2723	0.2948	0.0538	0.0901	48.5779	0.5522
3.42	3.272	0.291	0.0553	0.0889	49.9946	0.5523
3.57	3.2717	0.2921	0.058	0.0893	52.3933	0.5523
3.72	3.268	0.2942	0.0609	0.09	55.0136	0.5526
3.88	3.2621	0.2961	0.0639	0.0908	57.7937	0.5531
4.045	3.2557	0.2961	0.0666	0.091	60.3233	0.5536

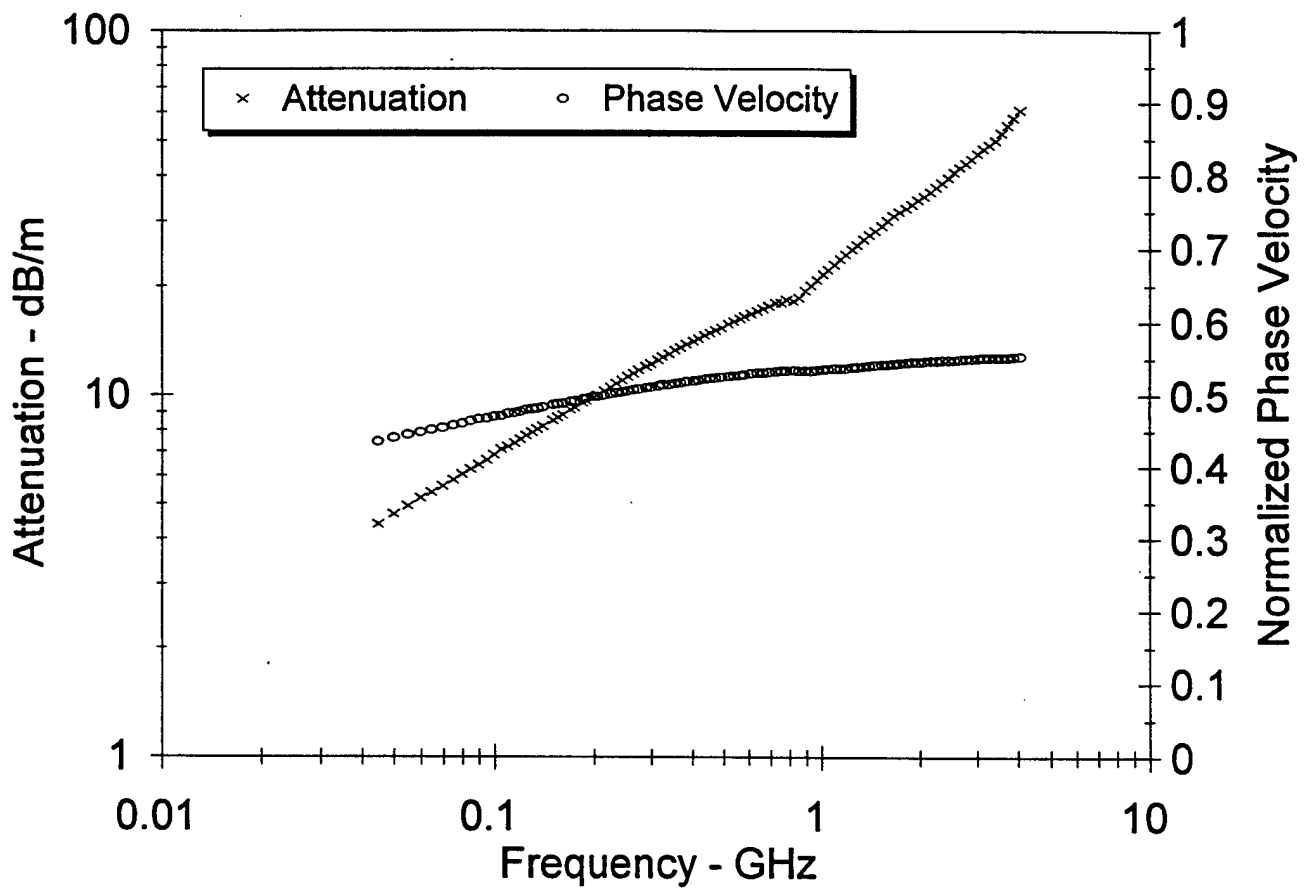
FT CARSON - C , File: 14AG61453  
20 deg C, Mv = 6.3%, 1.250 g/cc (dry)



FT CARSON - C , File: 14AG61453  
20 deg C, Mv = 6.3%, 1.250 g/cc (dry)



FT CARSON - C , File: 14AG61453  
20 deg C, Mv = 6.3%, 1.250 g/cc (dry)





12AG61531

FT CARSON - C

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26.4

20

1.25

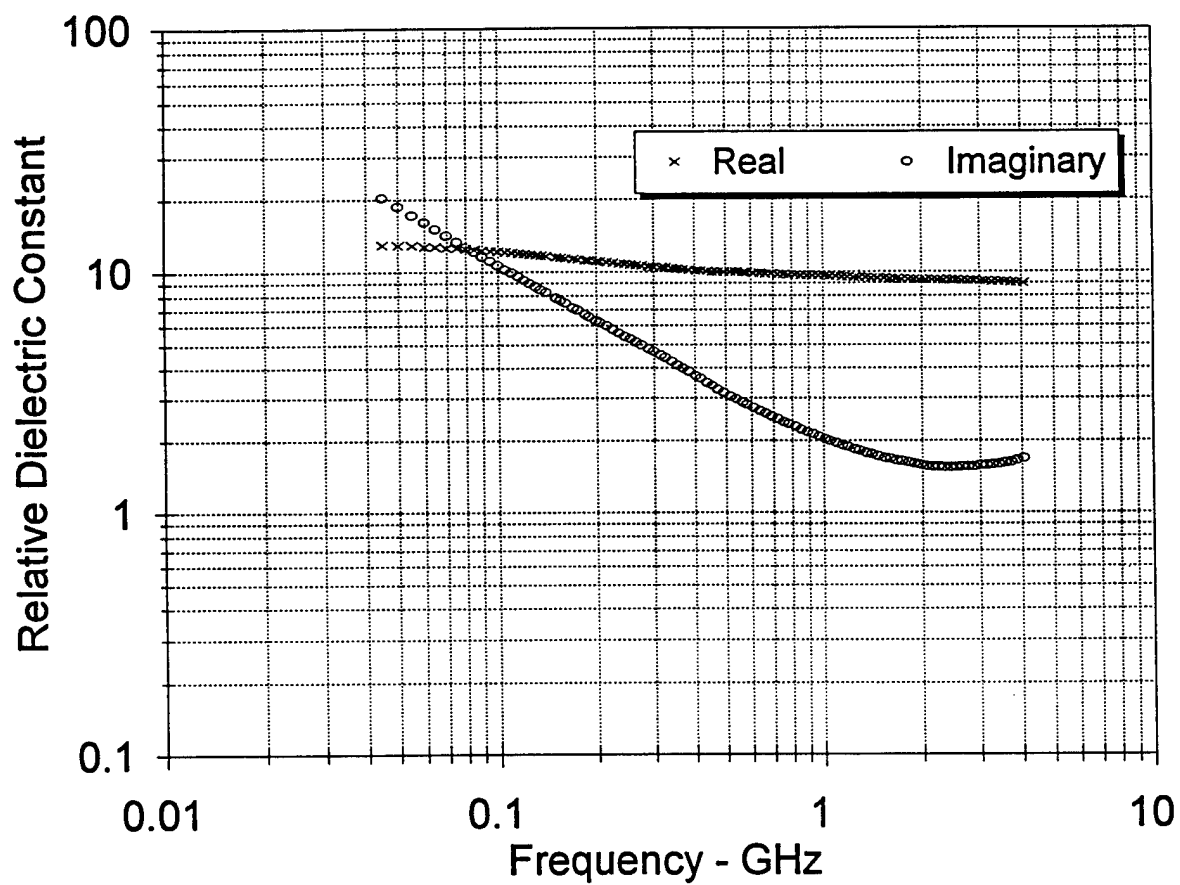
FT CARSON - C , File: 12AG61531

20 deg C, Mv = 26.4%, 1.250 g/cc (dry)

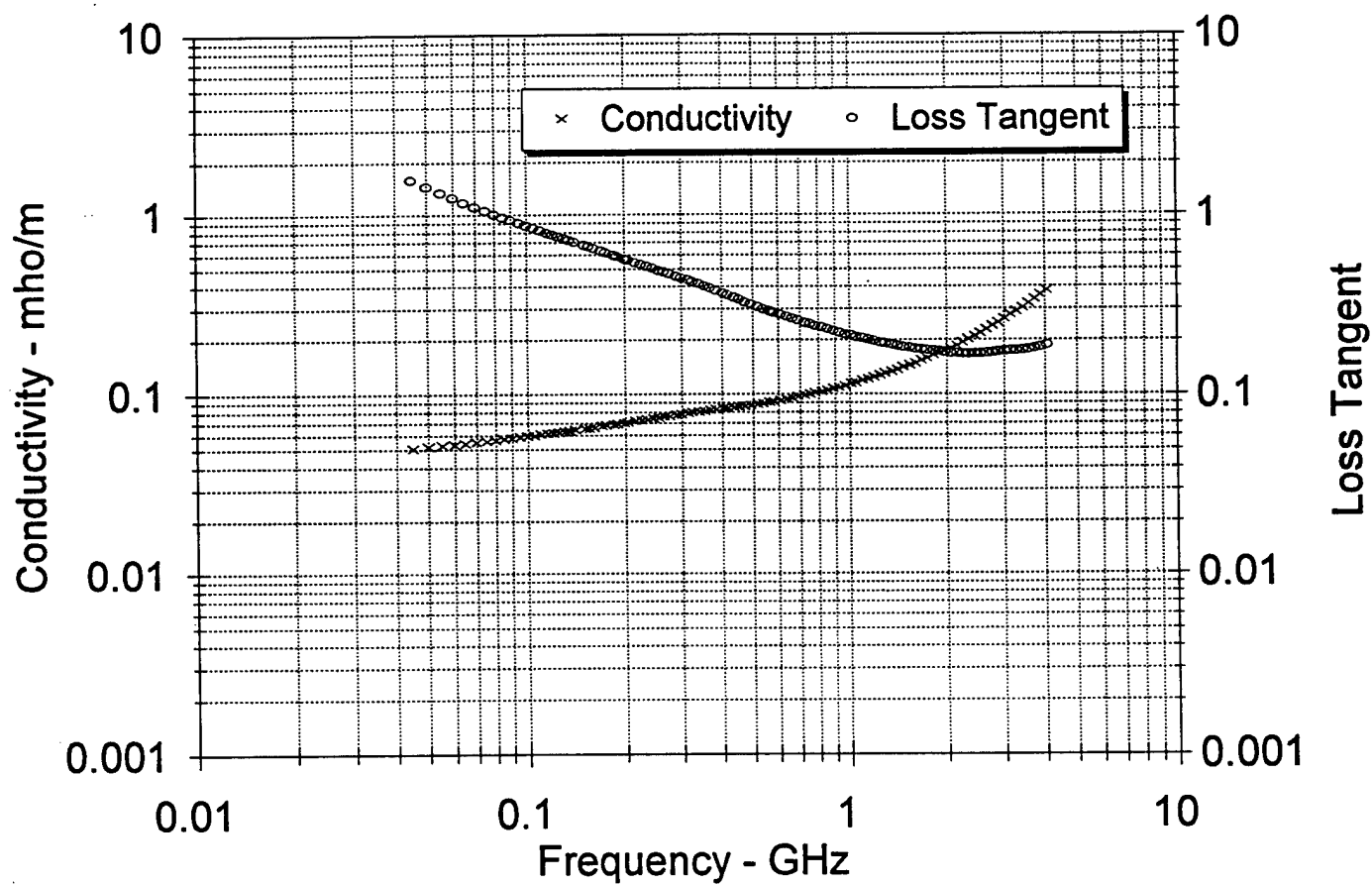
0.045	12.934	20.383	0.051	1.5759	19.3777	0.2323
0.05	12.9132	18.6841	0.0519	1.4469	20.1335	0.2369
0.055	12.8562	17.2421	0.0527	1.3411	20.8094	0.2412
0.06	12.775	16.0765	0.0536	1.2584	21.499	0.245
0.065	12.7267	15.0285	0.0543	1.1809	22.0688	0.2484
0.07	12.6458	14.1425	0.055	1.1184	22.6473	0.2515
0.075	12.5583	13.3757	0.0558	1.0651	23.2122	0.2544
0.08	12.4731	12.6876	0.0564	1.0172	23.7332	0.2571
0.085	12.3918	12.0901	0.0571	0.9756	24.2546	0.2595
0.09	12.309	11.5501	0.0578	0.9383	24.7503	0.2618
0.095	12.2347	11.0618	0.0584	0.9041	25.2202	0.2639
0.1	12.1535	10.6328	0.0591	0.8749	25.7099	0.2658
0.105	12.0688	10.2196	0.0597	0.8468	26.1402	0.2678
0.11	12.0048	9.8689	0.0604	0.8221	26.6069	0.2695
0.115	11.9352	9.5286	0.0609	0.7984	27.0234	0.2711
0.12	11.8727	9.2247	0.0616	0.777	27.4507	0.2726
0.125	11.8035	8.9391	0.0621	0.7573	27.8638	0.2742
0.13	11.7402	8.673	0.0627	0.7387	28.2611	0.2756
0.135	11.682	8.4289	0.0633	0.7215	28.6581	0.2769
0.14	11.62	8.2006	0.0638	0.7057	29.0513	0.2782
0.15	11.5116	7.7889	0.065	0.6766	29.8139	0.2805
0.155	11.4582	7.5946	0.0655	0.6628	30.1616	0.2817
0.16	11.406	7.4156	0.066	0.6501	30.5183	0.2828
0.17	11.3087	7.089	0.067	0.6269	31.2203	0.2848
0.175	11.2602	6.9357	0.0675	0.6159	31.5527	0.2858
0.185	11.1701	6.6554	0.0685	0.5958	32.2139	0.2876
0.19	11.1302	6.5252	0.0689	0.5863	32.5317	0.2885
0.2	11.0488	6.2655	0.0697	0.5671	33.0757	0.2902
0.205	11.0463	6.1574	0.0702	0.5574	33.3582	0.2905
0.215	10.9551	5.9606	0.0713	0.5441	34.0587	0.2922
0.225	10.8893	5.7642	0.0721	0.5293	34.6288	0.2935
0.235	10.8233	5.591	0.0731	0.5166	35.237	0.2948
0.245	10.7619	5.4194	0.0738	0.5036	35.7603	0.2961
0.255	10.7053	5.2629	0.0746	0.4916	36.2862	0.2973
0.265	10.6511	5.119	0.0754	0.4806	36.8134	0.2984
0.275	10.6005	4.9827	0.0762	0.47	37.314	0.2994
0.29	10.5245	4.7907	0.0773	0.4552	38.0255	0.3009
0.3	10.4807	4.6718	0.0779	0.4457	38.4758	0.3018
0.315	10.4149	4.5054	0.0789	0.4326	39.1338	0.3032
0.325	10.3735	4.4017	0.0795	0.4243	39.5556	0.304
0.34	10.3176	4.2548	0.0804	0.4124	40.1532	0.3052
0.355	10.2587	4.1143	0.0812	0.4011	40.6983	0.3063
0.37	10.2107	3.9884	0.0821	0.3906	41.2545	0.3073
0.385	10.1643	3.868	0.0828	0.3805	41.7625	0.3083
0.405	10.1084	3.7125	0.0836	0.3673	42.3302	0.3095
0.42	10.0722	3.606	0.0842	0.358	42.7474	0.3103
0.44	10.0267	3.4686	0.0849	0.3459	43.2162	0.3113
0.455	10.0002	3.3709	0.0853	0.3371	43.5181	0.3119
0.475	9.9748	3.2505	0.0859	0.3259	43.9016	0.3126

0.495	9.9574	3.1464	0.0866	0.316	44.3573	0.3131
0.52	9.9377	3.0355	0.0878	0.3055	45.034	0.3137
0.54	9.9199	2.9588	0.0888	0.2983	45.6486	0.3141
0.565	9.8941	2.8721	0.0902	0.2903	46.4477	0.3147
0.585	9.8736	2.8078	0.0913	0.2844	47.0833	0.3151
0.61	9.8467	2.7314	0.0926	0.2774	47.8465	0.3157
0.64	9.8184	2.6454	0.0941	0.2694	48.7152	0.3163
0.665	9.7954	2.583	0.0955	0.2637	49.4988	0.3168
0.695	9.7683	2.5116	0.0971	0.2571	50.3918	0.3174
0.725	9.7434	2.446	0.0986	0.251	51.278	0.3179
0.755	9.717	2.3854	0.1001	0.2455	52.1668	0.3184
0.785	9.6992	2.3297	0.1017	0.2402	53.0374	0.3188
0.82	9.6747	2.2702	0.1035	0.2347	54.0724	0.3193
0.855	9.6512	2.2163	0.1054	0.2296	55.1229	0.3198
0.895	9.6276	2.1588	0.1074	0.2242	56.2913	0.3203
0.93	9.6091	2.1131	0.1093	0.2199	57.3224	0.3207
0.97	9.5891	2.0678	0.1115	0.2156	58.5814	0.3211
1.015	9.5657	2.022	0.1141	0.2114	60.0275	0.3216
1.055	9.5453	1.9838	0.1164	0.2078	61.2902	0.322
1.1	9.5247	1.9447	0.119	0.2042	62.7255	0.3224
1.15	9.5022	1.9044	0.1218	0.2004	64.3057	0.3228
1.195	9.4828	1.8727	0.1244	0.1975	65.7855	0.3232
1.25	9.4598	1.8375	0.1277	0.1942	67.6123	0.3236
1.3	9.4395	1.8084	0.1307	0.1916	69.2862	0.324
1.36	9.4155	1.7741	0.1342	0.1884	71.2112	0.3245
1.415	9.3963	1.7447	0.1373	0.1857	72.9429	0.3248
1.475	9.3797	1.7153	0.1407	0.1829	74.8328	0.3252
1.54	9.3651	1.69	0.1447	0.1805	77.0474	0.3255
1.605	9.3492	1.6698	0.149	0.1786	79.4135	0.3258
1.675	9.331	1.6513	0.1538	0.177	82.0431	0.3261
1.745	9.3122	1.6351	0.1587	0.1756	84.7229	0.3265
1.82	9.2904	1.6196	0.1639	0.1743	87.6319	0.3269
1.9	9.2674	1.6007	0.1691	0.1727	90.537	0.3273
1.98	9.2494	1.5791	0.1739	0.1707	93.1762	0.3276
2.065	9.2393	1.5626	0.1794	0.1691	96.2192	0.3278
2.155	9.2268	1.5547	0.1863	0.1685	99.9715	0.3281
2.25	9.2121	1.5469	0.1935	0.1679	103.9404	0.3283
2.345	9.1995	1.5407	0.2009	0.1675	107.9763	0.3286
2.445	9.1879	1.5383	0.2091	0.1674	112.476	0.3288
2.55	9.1751	1.5408	0.2185	0.1679	117.5761	0.329
2.66	9.1596	1.5451	0.2285	0.1687	123.0916	0.3293
2.775	9.1426	1.5514	0.2394	0.1697	129.0495	0.3295
2.89	9.1249	1.5601	0.2507	0.171	135.2712	0.3299
3.015	9.1019	1.5696	0.2632	0.1725	142.1559	0.3302
3.145	9.0796	1.5738	0.2752	0.1733	148.8527	0.3306
3.28	9.0637	1.5783	0.2879	0.1741	155.8182	0.3309
3.42	9.0508	1.588	0.302	0.1754	163.573	0.3311
3.57	9.0376	1.6037	0.3184	0.1774	172.5494	0.3313
3.72	9.0233	1.6248	0.3361	0.1801	182.2906	0.3316
3.88	9.0045	1.6509	0.3562	0.1833	193.356	0.3319
4.045	8.9817	1.6762	0.377	0.1866	204.9043	0.3322

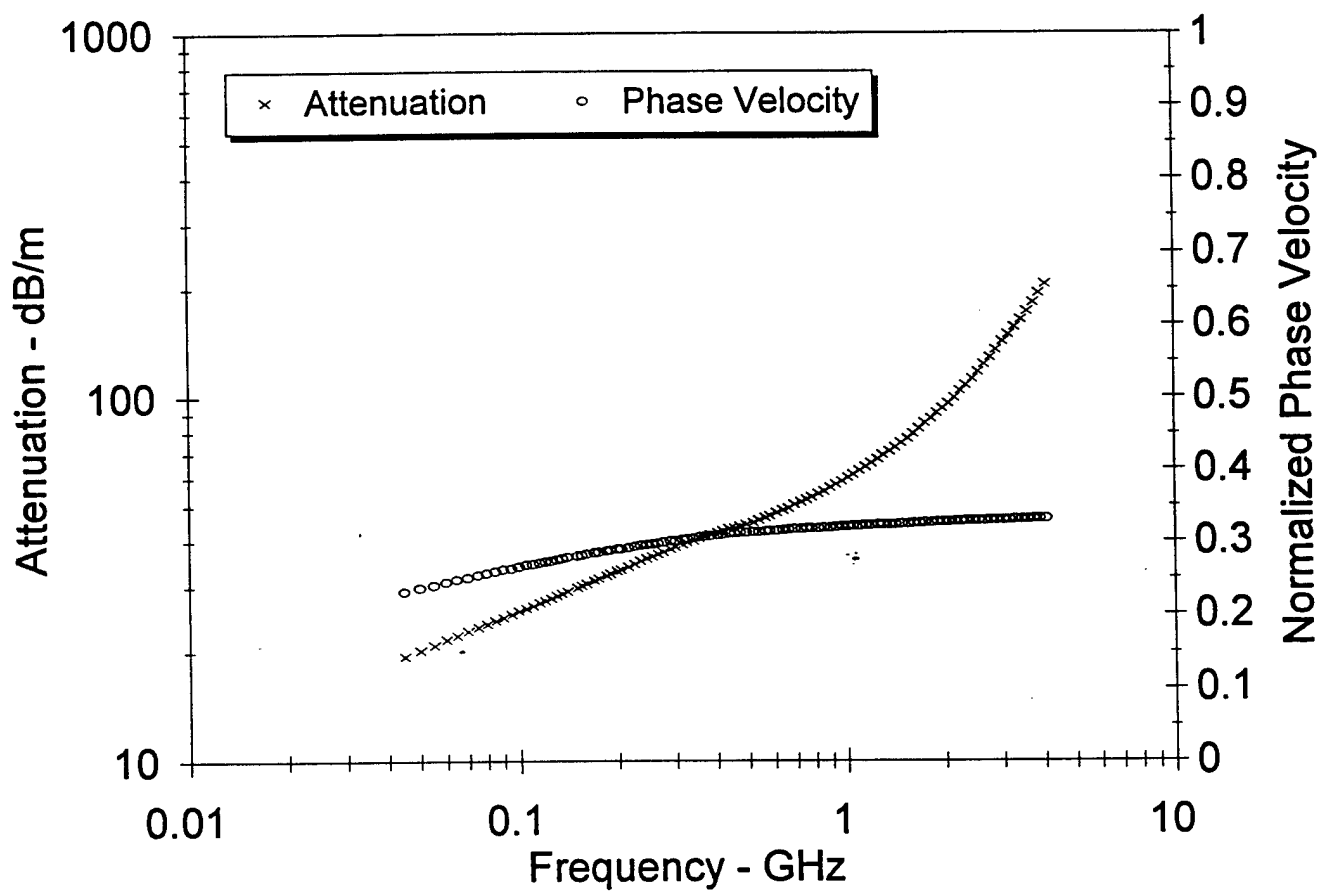
FT CARSON - C , File: 12AG61531  
20 deg C, Mv = 26.4%, 1.250 g/cc (dry)



FT CARSON - C , File: 12AG61531  
20 deg C, Mv = 26.4%, 1.250 g/cc (dry)



FT CARSON - C , File: 12AG61531  
20 deg C, Mv = 26.4%, 1.250 g/cc (dry)



14AG61653  
FT CARSON - C

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48.4

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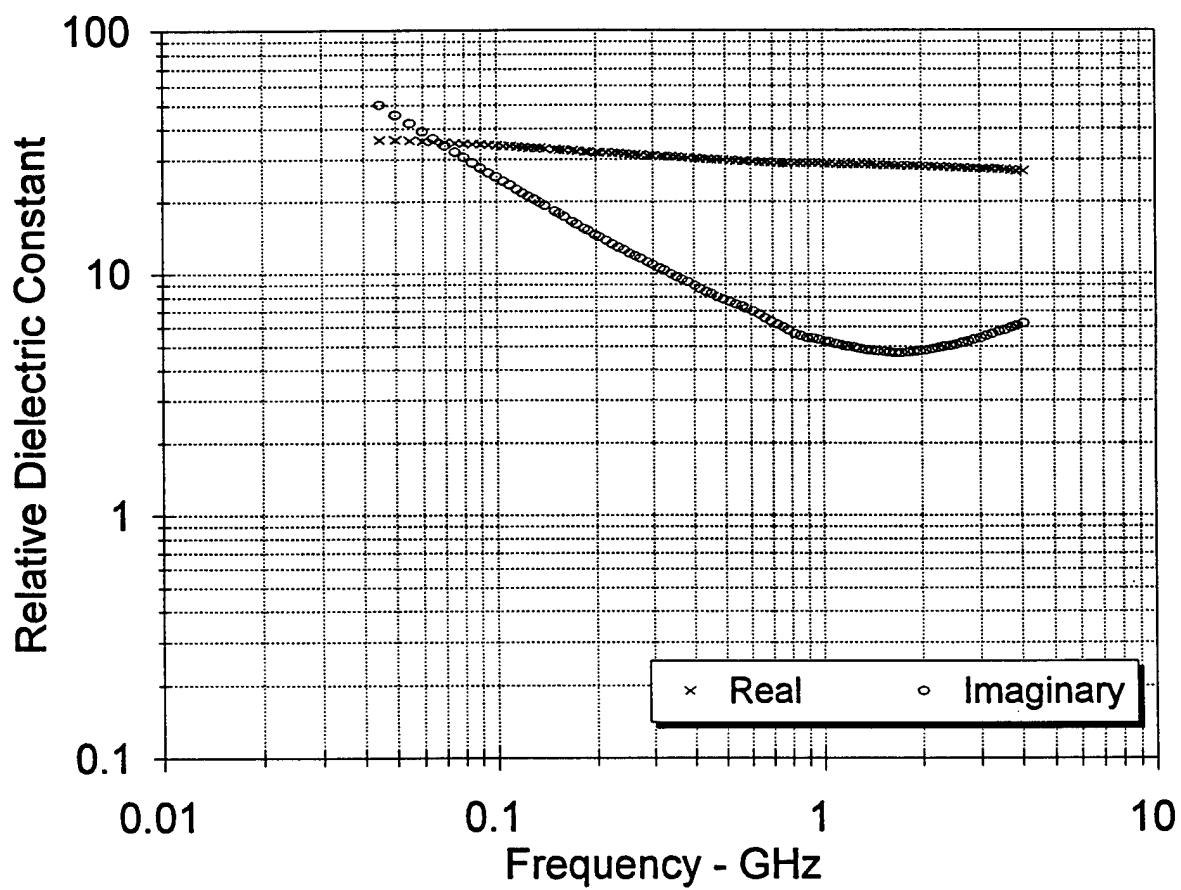
1.25

FT CARSON - C , File: 14AG61653  
20 deg C, Mv = 48.4%, 1.250 g/cc (dry)

0.045	35.9383	50.0353	0.1252	1.3923	29.3258	0.1432
0.05	35.8513	45.6122	0.1268	1.2723	30.2798	0.146
0.055	35.7006	41.9332	0.1282	1.1746	31.1388	0.1484
0.06	35.5296	38.8629	0.1297	1.0938	31.9408	0.1506
0.065	35.3638	36.3305	0.1313	1.0273	32.744	0.1524
0.07	35.1614	34.1077	0.1328	0.97	33.4801	0.1542
0.075	34.9615	32.1773	0.1342	0.9204	34.1824	0.1557
0.08	34.7955	30.4627	0.1355	0.8755	34.8227	0.1571
0.085	34.6104	28.9468	0.1368	0.8364	35.4459	0.1584
0.09	34.4264	27.6155	0.1382	0.8022	36.0705	0.1596
0.095	34.2764	26.3988	0.1395	0.7702	36.6355	0.1606
0.1	34.0821	25.3068	0.1407	0.7425	37.2111	0.1617
0.105	33.9238	24.2786	0.1418	0.7157	37.7046	0.1626
0.11	33.7846	23.4132	0.1432	0.693	38.2826	0.1634
0.115	33.6401	22.577	0.1444	0.6711	38.7842	0.1642
0.12	33.4879	21.8046	0.1455	0.6511	39.2731	0.165
0.125	33.3666	21.0908	0.1466	0.6321	39.7353	0.1657
0.13	33.237	20.4301	0.1477	0.6147	40.1929	0.1664
0.135	33.1215	19.8148	0.1487	0.5982	40.6321	0.167
0.14	33.0007	19.2478	0.1498	0.5833	41.0784	0.1676
0.15	32.7913	18.2195	0.152	0.5556	41.9272	0.1687
0.155	32.6978	17.7498	0.153	0.5428	42.3289	0.1691
0.16	32.5897	17.3009	0.1539	0.5309	42.7165	0.1697
0.17	32.415	16.495	0.1559	0.5089	43.4921	0.1705
0.175	32.3302	16.1199	0.1569	0.4986	43.8583	0.1709
0.185	32.1697	15.4385	0.1588	0.4799	44.6018	0.1717
0.19	32.1012	15.1238	0.1598	0.4711	44.9617	0.172
0.2	31.9774	14.5354	0.1617	0.4546	45.6503	0.1726
0.205	31.9162	14.2786	0.1628	0.4474	46.0412	0.1729
0.215	31.7891	13.7766	0.1647	0.4334	46.7454	0.1735
0.225	31.6866	13.3237	0.1667	0.4205	47.4453	0.174
0.235	31.5778	12.9169	0.1688	0.4091	48.1745	0.1745
0.245	31.4733	12.5333	0.1707	0.3982	48.8613	0.1749
0.255	31.3629	12.1893	0.1728	0.3887	49.5886	0.1754
0.265	31.2724	11.8683	0.1749	0.3795	50.2887	0.1758
0.275	31.1776	11.5655	0.1769	0.371	50.9693	0.1762
0.29	31.0464	11.1496	0.1798	0.3591	51.9767	0.1767
0.3	30.9568	10.8945	0.1817	0.3519	52.6455	0.1771
0.315	30.8348	10.5367	0.1846	0.3417	53.6116	0.1776
0.325	30.7518	10.3142	0.1864	0.3354	54.2455	0.1779
0.34	30.6342	10.0051	0.1892	0.3266	55.191	0.1784
0.355	30.5162	9.703	0.1915	0.318	56.0303	0.1788
0.37	30.4188	9.4394	0.1942	0.3103	56.9336	0.1792
0.385	30.3188	9.1788	0.1965	0.3027	57.7322	0.1796
0.405	30.2034	8.8618	0.1996	0.2934	58.7842	0.1801
0.42	30.1237	8.6428	0.2019	0.2869	59.5604	0.1804
0.44	30.0282	8.3767	0.205	0.279	60.6036	0.1808
0.455	29.9699	8.1935	0.2073	0.2734	61.3808	0.181
0.475	29.8958	7.9759	0.2107	0.2668	62.481	0.1813

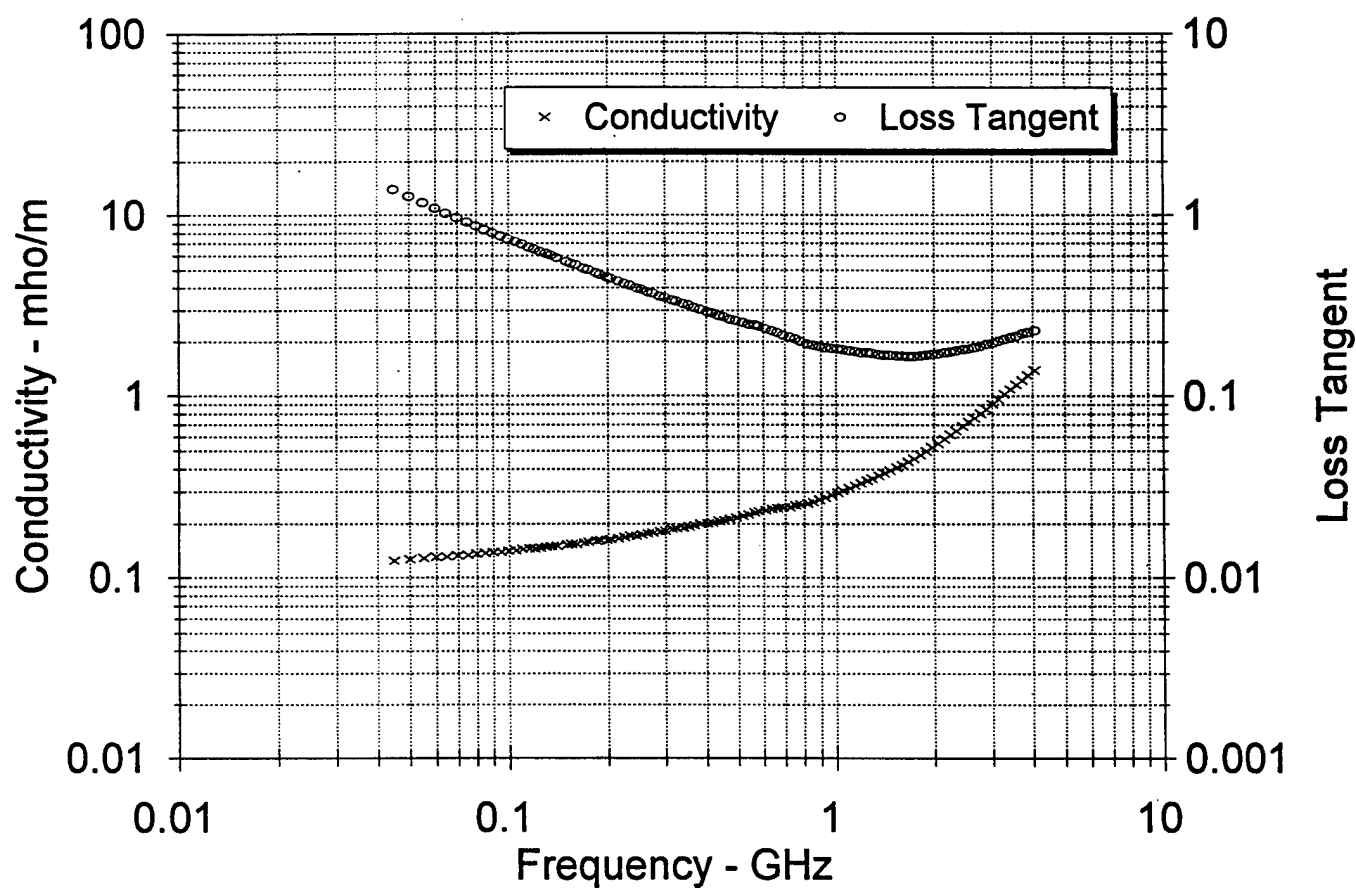
0.495	29.8262	7.785	0.2143	0.261	63.6506	0.1816
0.52	29.7381	7.583	0.2193	0.255	65.2503	0.1819
0.54	29.6531	7.4454	0.2236	0.2511	66.6414	0.1822
0.565	29.5235	7.2807	0.2287	0.2466	68.3519	0.1827
0.585	29.4103	7.1408	0.2323	0.2428	69.5608	0.1831
0.61	29.2796	6.9504	0.2358	0.2374	70.7788	0.1835
0.64	29.1488	6.7213	0.2392	0.2306	72.0005	0.184
0.665	29.0578	6.5346	0.2416	0.2249	72.872	0.1844
0.695	28.9696	6.3228	0.2444	0.2183	73.8285	0.1847
0.725	28.9086	6.1213	0.2468	0.2117	74.6655	0.185
0.755	28.8678	5.9799	0.2511	0.2071	76.0301	0.1851
0.785	28.859	5.7781	0.2522	0.2002	76.4212	0.1852
0.82	28.8558	5.6236	0.2564	0.1949	77.7181	0.1853
0.855	28.8578	5.5059	0.2618	0.1908	79.3519	0.1853
0.895	28.8526	5.4181	0.2696	0.1878	81.7578	0.1854
0.93	28.823	5.3642	0.2774	0.1861	84.1607	0.1855
0.97	28.7701	5.3058	0.2862	0.1844	86.9103	0.1857
1.015	28.7066	5.2334	0.2954	0.1823	89.809	0.1859
1.055	28.6521	5.1656	0.303	0.1803	92.2348	0.1861
1.1	28.596	5.0986	0.3119	0.1783	95.0238	0.1863
1.15	28.5379	5.0361	0.322	0.1765	98.2319	0.1865
1.195	28.4926	4.9804	0.3309	0.1748	101.034	0.1866
1.25	28.4461	4.9259	0.3424	0.1732	104.6215	0.1868
1.3	28.3988	4.8781	0.3526	0.1718	107.8456	0.187
1.36	28.3468	4.8262	0.365	0.1703	111.7326	0.1872
1.415	28.308	4.7893	0.3768	0.1692	115.4458	0.1873
1.475	28.2713	4.7607	0.3905	0.1684	119.7037	0.1874
1.54	28.2269	4.7362	0.4056	0.1678	124.4381	0.1876
1.605	28.1778	4.7128	0.4206	0.1673	129.1634	0.1877
1.675	28.1424	4.6908	0.4369	0.1667	134.2553	0.1879
1.745	28.1247	4.6868	0.4548	0.1666	139.7902	0.1879
1.82	28.0954	4.7049	0.4761	0.1675	146.4328	0.188
1.9	28.0515	4.732	0.4999	0.1687	153.8619	0.1881
1.98	28.0112	4.7565	0.5237	0.1698	161.2792	0.1883
2.065	27.9713	4.7927	0.5503	0.1713	169.5946	0.1884
2.155	27.9249	4.8485	0.581	0.1736	179.1792	0.1885
2.25	27.857	4.9039	0.6135	0.176	189.4253	0.1887
2.345	27.792	4.9553	0.6462	0.1783	199.7048	0.1889
2.445	27.73	5.0046	0.6804	0.1805	210.5076	0.1891
2.55	27.6728	5.0596	0.7174	0.1828	222.1667	0.1893
2.66	27.6186	5.1278	0.7585	0.1857	235.0753	0.1895
2.775	27.5585	5.2076	0.8036	0.189	249.2866	0.1897
2.89	27.4969	5.2931	0.8506	0.1925	264.1337	0.1898
3.015	27.4244	5.3894	0.9035	0.1965	280.8891	0.19
3.145	27.3486	5.4913	0.9603	0.2008	298.8917	0.1903
3.28	27.2624	5.6026	1.0219	0.2055	318.4694	0.1905
3.42	27.1716	5.7176	1.0873	0.2104	339.3575	0.1908
3.57	27.0693	5.8351	1.1584	0.2156	362.1106	0.1911
3.72	26.9681	5.946	1.23	0.2205	385.1182	0.1914
3.88	26.8673	6.065	1.3085	0.2257	410.3726	0.1917
4.045	26.767	6.1852	1.3912	0.2311	436.9899	0.192

FT CARSON - C , File: 14AG61653  
20 deg C, Mv = 48.4%, 1.250 g/cc (dry)

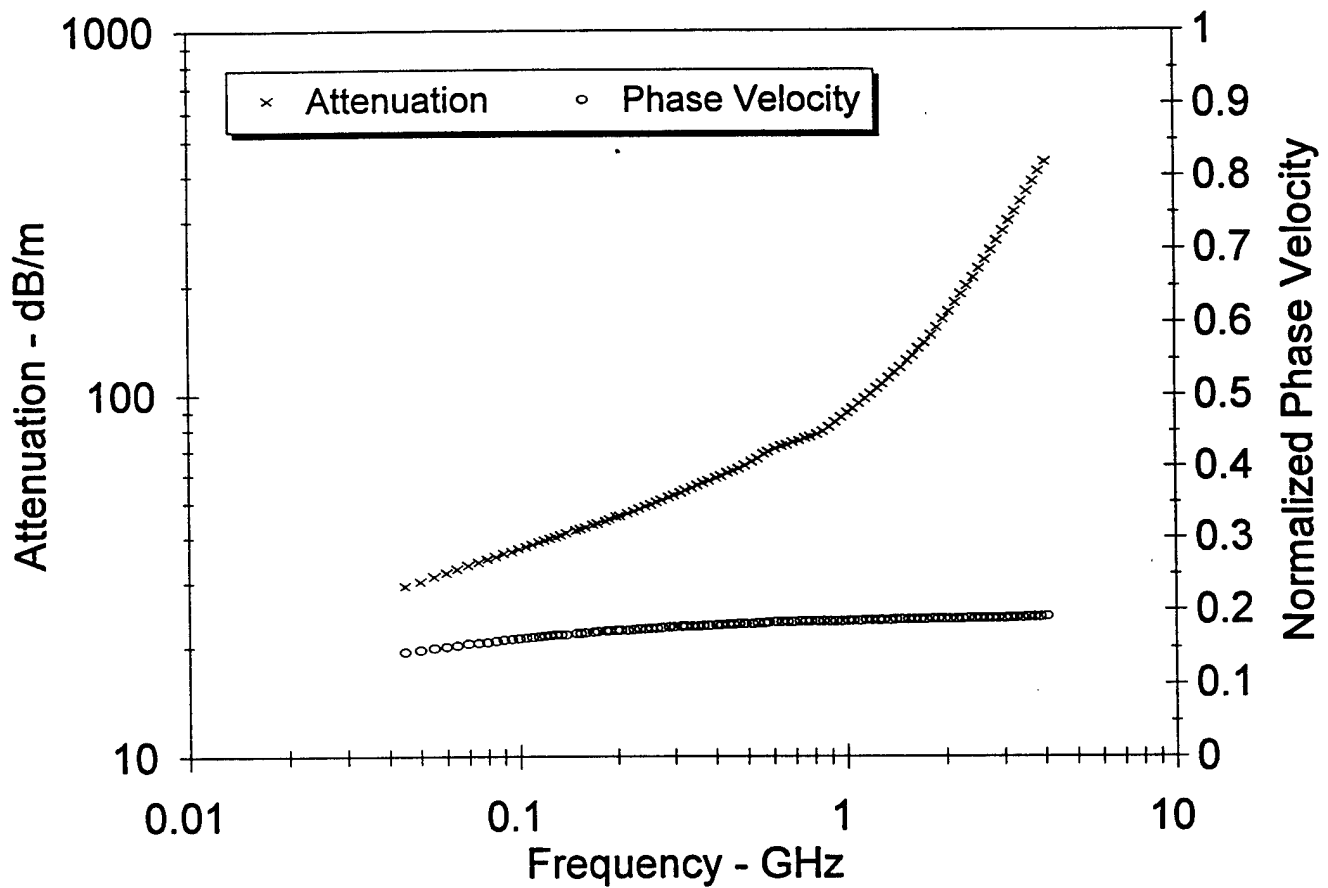




FT CARSON - C , File: 14AG61653  
20 deg C, Mv = 48.4%, 1.250 g/cc (dry)



FT CARSON - C , File: 14AG61653  
20 deg C, Mv = 48.4%, 1.250 g/cc (dry)



14AG61511  
FT CARSON - D

9.7

4

3.7

20

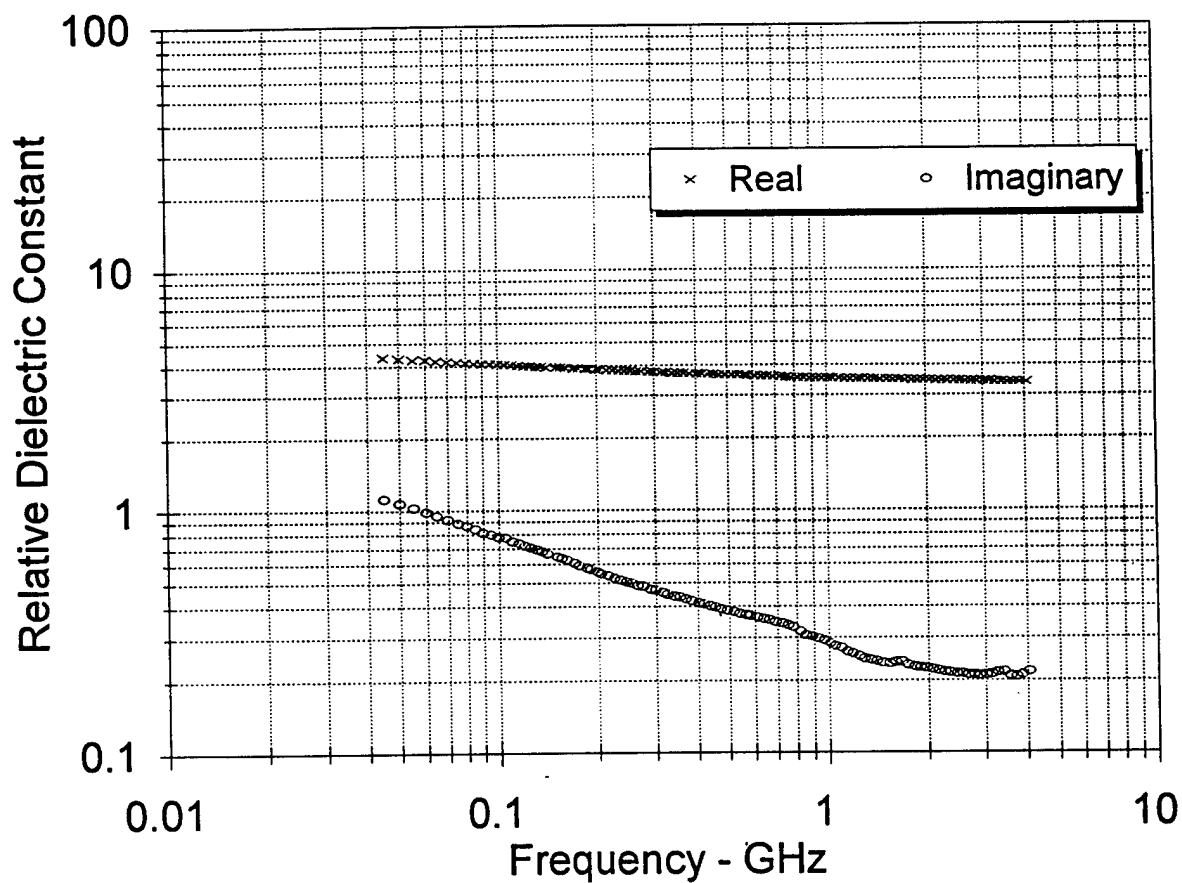
1.52

FT CARSON - D , File: 14AG61511  
20 deg C, Mv = 3.7%, 1.520 g/cc (dry)

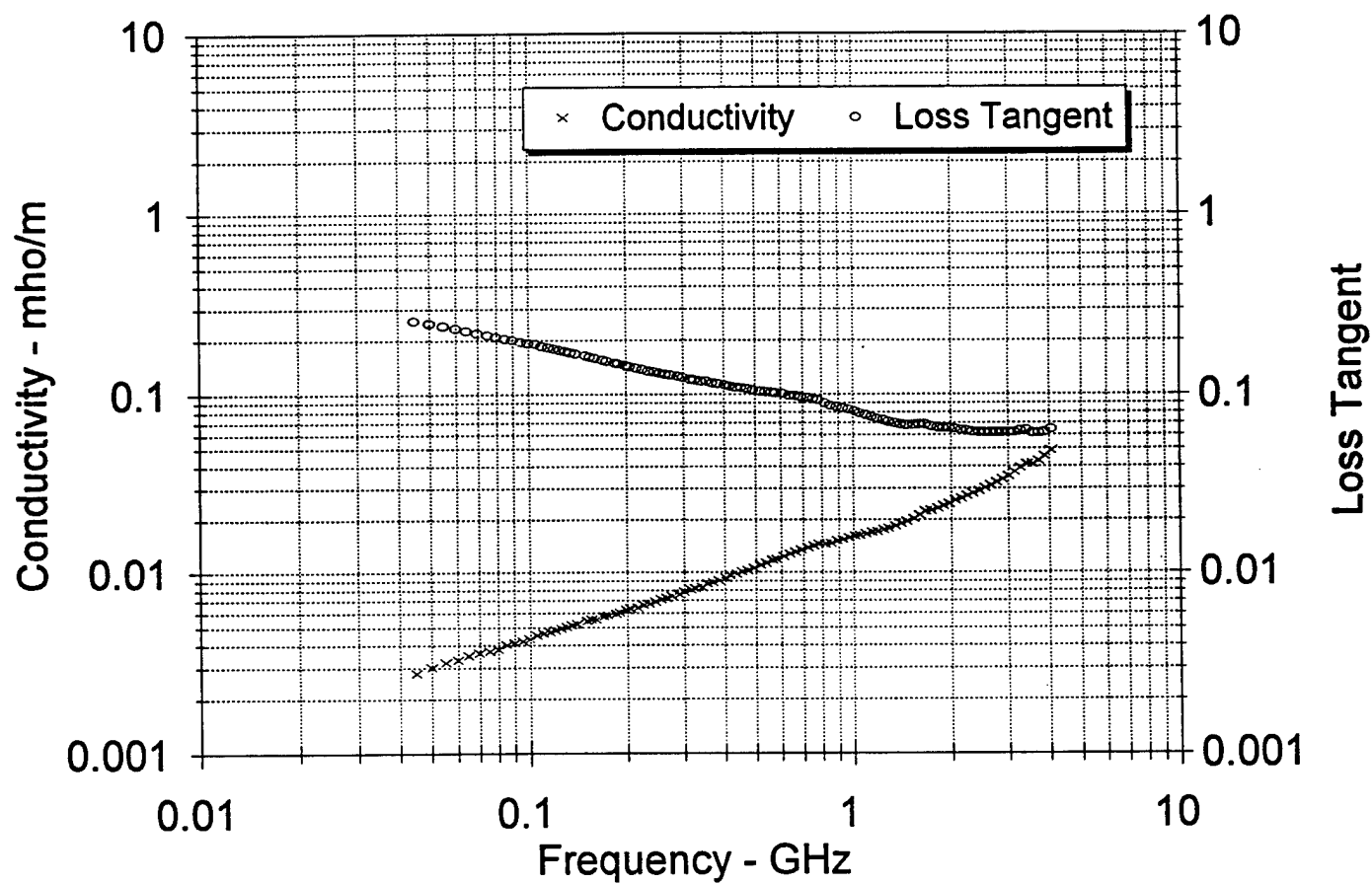
0.045	4.3557	1.1209	0.0028	0.2574	2.1807	0.4753
0.05	4.3114	1.0776	0.003	0.2499	2.3423	0.4779
0.055	4.2635	1.0326	0.0032	0.2422	2.4839	0.4808
0.06	4.2466	0.9918	0.0033	0.2336	2.6092	0.482
0.065	4.2035	0.9555	0.0035	0.2273	2.7379	0.4847
0.07	4.1764	0.9187	0.0036	0.22	2.8454	0.4864
0.075	4.1478	0.8893	0.0037	0.2144	2.9619	0.4882
0.08	4.1228	0.8642	0.0038	0.2096	3.0804	0.4898
0.085	4.1035	0.8428	0.004	0.2054	3.1999	0.4911
0.09	4.0691	0.8149	0.0041	0.2003	3.2907	0.4933
0.095	4.07	0.7981	0.0042	0.1961	3.4024	0.4933
0.1	4.0472	0.7803	0.0043	0.1928	3.5119	0.4948
0.105	4.047	0.7723	0.0045	0.1908	3.6499	0.4949
0.11	4.0186	0.7482	0.0046	0.1862	3.7184	0.4967
0.115	4.0054	0.7316	0.0047	0.1827	3.8082	0.4976
0.12	3.9921	0.7185	0.0048	0.18	3.9096	0.4985
0.125	3.9797	0.7042	0.0049	0.1769	3.9979	0.4993
0.13	3.9654	0.6919	0.005	0.1745	4.0933	0.5003
0.135	3.9548	0.678	0.0051	0.1714	4.1714	0.501
0.14	3.9441	0.6648	0.0052	0.1686	4.2477	0.5018
0.15	3.9239	0.6434	0.0054	0.164	4.4167	0.5031
0.155	3.9142	0.6337	0.0055	0.1619	4.5014	0.5038
0.16	3.9052	0.6232	0.0055	0.1596	4.5748	0.5044
0.17	3.887	0.6042	0.0057	0.1554	4.7248	0.5057
0.175	3.8785	0.5936	0.0058	0.153	4.7837	0.5063
0.185	3.8627	0.5781	0.0059	0.1497	4.9358	0.5074
0.19	3.8565	0.5708	0.006	0.148	5.0098	0.5078
0.2	3.8388	0.5554	0.0062	0.1447	5.1433	0.5091
0.205	3.8356	0.5489	0.0063	0.1431	5.213	0.5093
0.215	3.8226	0.5355	0.0064	0.1401	5.3432	0.5102
0.225	3.8136	0.5246	0.0066	0.1376	5.4845	0.5109
0.235	3.8008	0.5143	0.0067	0.1353	5.6257	0.5118
0.245	3.7921	0.5061	0.0069	0.1335	5.7794	0.5124
0.255	3.7798	0.4986	0.0071	0.1319	5.9357	0.5132
0.265	3.7696	0.4892	0.0072	0.1298	6.061	0.514
0.275	3.7606	0.4835	0.0074	0.1286	6.2235	0.5146
0.29	3.7478	0.4718	0.0076	0.1259	6.4155	0.5155
0.3	3.7408	0.4655	0.0078	0.1244	6.5542	0.516
0.315	3.7307	0.456	0.008	0.1222	6.7524	0.5168
0.325	3.7238	0.4502	0.0081	0.1209	6.884	0.5173
0.34	3.7146	0.4416	0.0083	0.1189	7.0731	0.5179
0.355	3.7108	0.4382	0.0087	0.1181	7.3328	0.5182
0.37	3.6993	0.4284	0.0088	0.1158	7.4832	0.5191
0.385	3.6923	0.4227	0.009	0.1145	7.691	0.5196
0.405	3.6829	0.4142	0.0093	0.1125	7.9389	0.5203
0.42	3.6765	0.4095	0.0096	0.1114	8.1467	0.5207
0.44	3.6675	0.4026	0.0098	0.1098	8.4003	0.5214
0.455	3.6615	0.3979	0.0101	0.1087	8.5936	0.5218
0.475	3.6529	0.3918	0.0103	0.1072	8.8432	0.5225

0.495	3.6443	0.3869	0.0106	0.1062	9.1128	0.5231
0.52	3.6343	0.38	0.011	0.1046	9.4153	0.5238
0.54	3.6265	0.3756	0.0113	0.1036	9.6754	0.5244
0.565	3.6168	0.3708	0.0117	0.1025	10.0074	0.5251
0.585	3.6088	0.3671	0.0119	0.1017	10.2694	0.5257
0.61	3.6003	0.3624	0.0123	0.1007	10.5852	0.5264
0.64	3.5901	0.3561	0.0127	0.0992	10.926	0.5271
0.665	3.5832	0.3521	0.013	0.0983	11.2382	0.5276
0.695	3.574	0.3469	0.0134	0.0971	11.5877	0.5283
0.725	3.5642	0.3428	0.0138	0.0962	11.9609	0.5291
0.755	3.5549	0.3366	0.0141	0.0947	12.2472	0.5298
0.785	3.5408	0.3313	0.0145	0.0936	12.558	0.5309
0.82	3.5295	0.3166	0.0144	0.0897	12.555	0.5317
0.855	3.5283	0.307	0.0146	0.087	12.6995	0.5319
0.895	3.523	0.3021	0.015	0.0858	13.0914	0.5323
0.93	3.5165	0.2974	0.0154	0.0846	13.4026	0.5328
0.97	3.5084	0.2907	0.0157	0.0829	13.6817	0.5334
1.015	3.5022	0.2836	0.016	0.081	13.9792	0.5339
1.055	3.4975	0.2762	0.0162	0.079	14.163	0.5343
1.1	3.4936	0.2698	0.0165	0.0772	14.4315	0.5346
1.15	3.4889	0.2625	0.0168	0.0752	14.6912	0.535
1.195	3.4852	0.2568	0.0171	0.0737	14.9422	0.5353
1.25	3.4812	0.2501	0.0174	0.0719	15.2336	0.5356
1.3	3.4782	0.2455	0.0177	0.0706	15.5585	0.5359
1.36	3.4765	0.2418	0.0183	0.0695	16.0302	0.536
1.415	3.4747	0.2385	0.0188	0.0686	16.4558	0.5362
1.475	3.4721	0.2354	0.0193	0.0678	16.937	0.5364
1.54	3.4704	0.2343	0.0201	0.0675	17.6098	0.5365
1.605	3.4682	0.236	0.0211	0.0681	18.4914	0.5367
1.675	3.4573	0.2373	0.0221	0.0686	19.4296	0.5375
1.745	3.4521	0.2299	0.0223	0.0666	19.6269	0.5379
1.82	3.4493	0.2269	0.023	0.0658	20.2169	0.5381
1.9	3.4456	0.2251	0.0238	0.0653	20.9447	0.5384
1.98	3.4413	0.2228	0.0245	0.0647	21.6201	0.5388
2.065	3.4373	0.221	0.0254	0.0643	22.3741	0.5391
2.155	3.433	0.2182	0.0262	0.0636	23.075	0.5394
2.25	3.4293	0.216	0.027	0.063	23.8608	0.5397
2.345	3.4258	0.2136	0.0279	0.0624	24.6051	0.54
2.445	3.4232	0.2115	0.0288	0.0618	25.4067	0.5402
2.55	3.4195	0.2117	0.03	0.0619	26.5444	0.5405
2.66	3.4157	0.2099	0.031	0.0614	27.4633	0.5408
2.775	3.4127	0.2094	0.0323	0.0614	28.5952	0.5411
2.89	3.4091	0.2089	0.0336	0.0613	29.7281	0.5413
3.015	3.4054	0.2095	0.0351	0.0615	31.1205	0.5416
3.145	3.4018	0.2102	0.0368	0.0618	32.5877	0.5419
3.28	3.3988	0.2142	0.0391	0.063	34.64	0.5421
3.42	3.3836	0.2151	0.0409	0.0636	36.363	0.5434
3.57	3.3815	0.2063	0.041	0.061	36.4208	0.5436
3.72	3.3822	0.2057	0.0426	0.0608	37.8352	0.5435
3.88	3.3805	0.2095	0.0452	0.062	40.1864	0.5436
4.045	3.3752	0.2164	0.0487	0.0641	43.3061	0.544

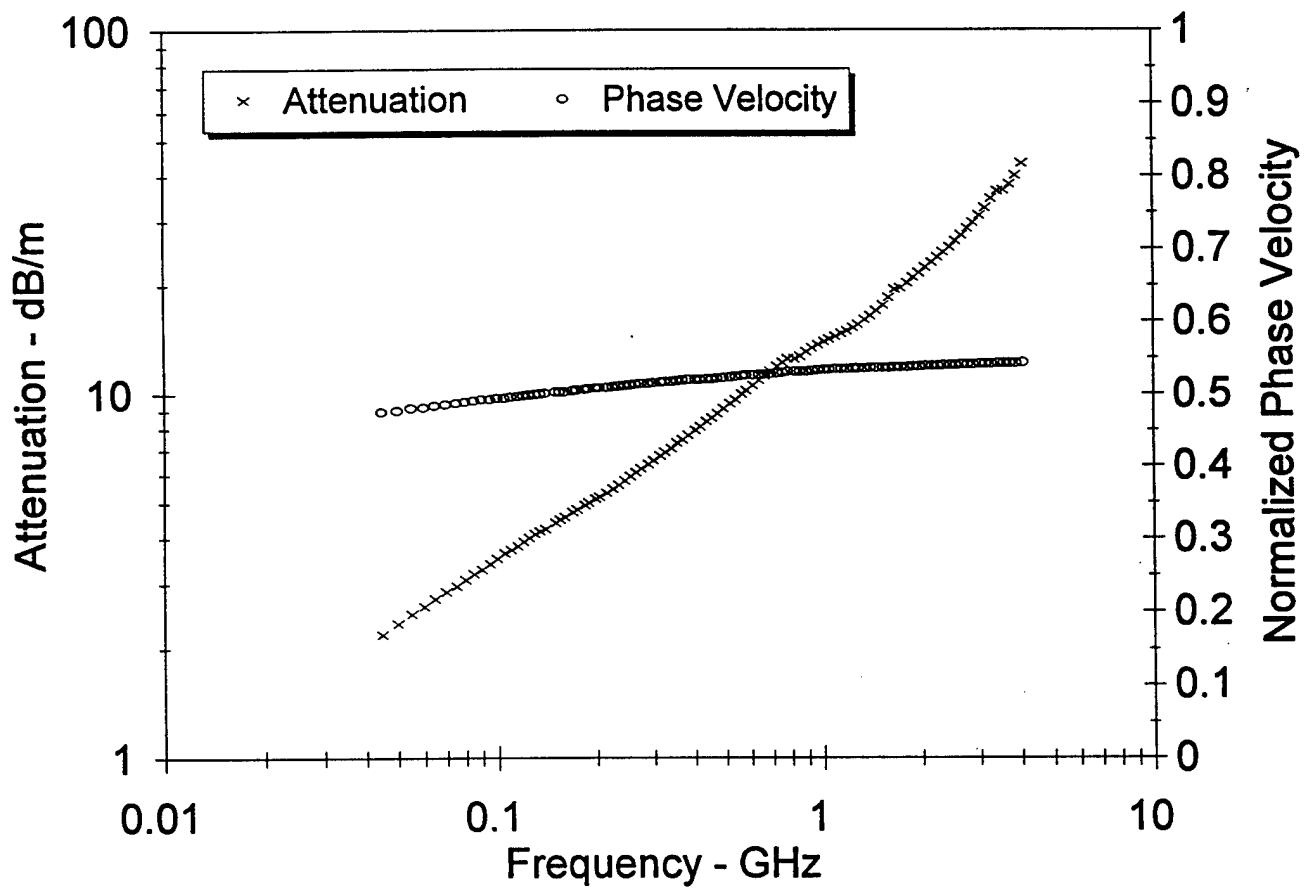
FT CARSON - D , File: 14AG61511  
20 deg C, Mv = 3.7%, 1.520 g/cc (dry)



FT CARSON - D , File: 14AG61511  
20 deg C, Mv = 3.7%, 1.520 g/cc (dry)



FT CARSON - D , File: 14AG61511  
20 deg C, Mv = 3.7%, 1.520 g/cc (dry)



12AG61552  
FT CARSON - D

9.7

4

FT CARSON - D , File: 12AG61552

16.4

20 deg C, Mv = 16.4%, 1.520 g/cc (dry)

20

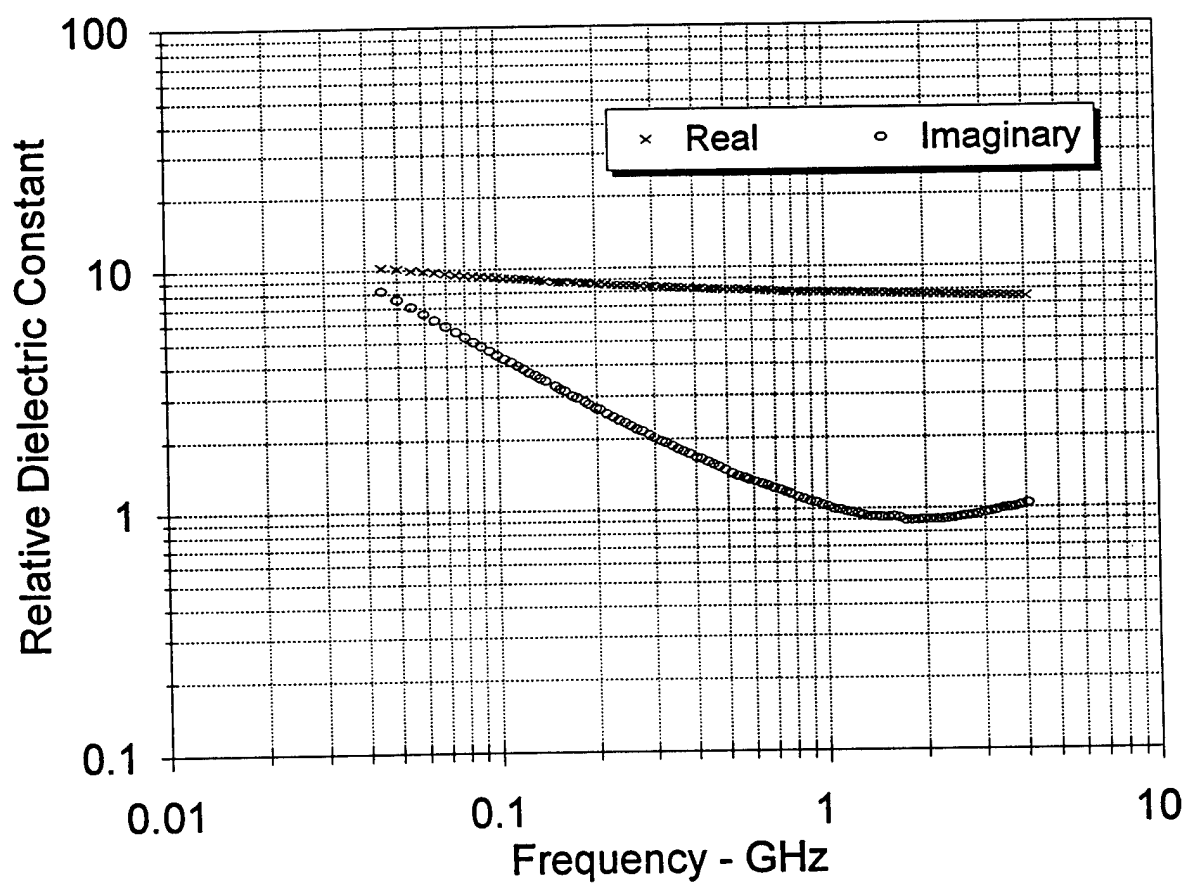
1.52

0.045	10.2325	8.2043	0.0205	0.8018	9.8286	0.2927
0.05	10.0867	7.5473	0.021	0.7482	10.1919	0.2969
0.055	9.9434	7.0024	0.0214	0.7042	10.5372	0.3008
0.06	9.8533	6.5702	0.0219	0.6668	10.8866	0.3036
0.065	9.728	6.1596	0.0223	0.6332	11.1744	0.3068
0.07	9.6373	5.8092	0.0226	0.6028	11.4447	0.3094
0.075	9.5485	5.5129	0.023	0.5774	11.7258	0.3118
0.08	9.4733	5.2428	0.0233	0.5534	11.9745	0.3139
0.085	9.3984	5.0063	0.0237	0.5327	12.2254	0.3159
0.09	9.3337	4.7942	0.024	0.5136	12.4651	0.3176
0.095	9.274	4.6016	0.0243	0.4962	12.6931	0.3192
0.1	9.222	4.4321	0.0246	0.4806	12.9261	0.3206
0.105	9.1536	4.257	0.0249	0.4651	13.1055	0.3223
0.11	9.1181	4.1238	0.0252	0.4523	13.3428	0.3234
0.115	9.0723	3.9876	0.0255	0.4395	13.5394	0.3246
0.12	9.0323	3.8577	0.0257	0.4271	13.714	0.3257
0.125	8.9937	3.7497	0.0261	0.4169	13.9285	0.3267
0.13	8.9526	3.6412	0.0263	0.4067	14.1119	0.3278
0.135	8.9184	3.5443	0.0266	0.3974	14.3039	0.3287
0.14	8.8835	3.454	0.0269	0.3888	14.4951	0.3296
0.15	8.8206	3.2838	0.0274	0.3723	14.8389	0.3312
0.155	8.795	3.2056	0.0276	0.3645	14.9999	0.3319
0.16	8.7669	3.1327	0.0279	0.3573	15.1647	0.3326
0.17	8.7159	2.9989	0.0283	0.3441	15.486	0.334
0.175	8.6911	2.9355	0.0286	0.3378	15.6346	0.3346
0.185	8.6441	2.8223	0.029	0.3265	15.9474	0.3358
0.19	8.6256	2.7704	0.0293	0.3212	16.101	0.3363
0.2	8.5884	2.6709	0.0297	0.311	16.3873	0.3373
0.205	8.5689	2.6246	0.0299	0.3063	16.5299	0.3378
0.215	8.5337	2.537	0.0303	0.2973	16.8033	0.3387
0.225	8.5004	2.455	0.0307	0.2888	17.0592	0.3395
0.235	8.4748	2.3864	0.0312	0.2816	17.3547	0.3402
0.245	8.4469	2.3176	0.0316	0.2744	17.6083	0.3409
0.255	8.4216	2.2559	0.032	0.2679	17.8735	0.3416
0.265	8.3986	2.1967	0.0324	0.2616	18.1186	0.3422
0.275	8.3755	2.1437	0.0328	0.2559	18.3806	0.3428
0.29	8.343	2.0678	0.0333	0.2478	18.7422	0.3436
0.3	8.323	2.0213	0.0337	0.2429	18.9811	0.3441
0.315	8.2953	1.9564	0.0343	0.2358	19.33	0.3448
0.325	8.2767	1.9172	0.0346	0.2316	19.5707	0.3453
0.34	8.2531	1.8621	0.0352	0.2256	19.9204	0.3459
0.355	8.2244	1.8079	0.0357	0.2198	20.2353	0.3466
0.37	8.2077	1.765	0.0363	0.215	20.616	0.3471
0.385	8.1868	1.7217	0.0369	0.2103	20.9572	0.3476
0.405	8.1602	1.6693	0.0376	0.2046	21.4168	0.3483
0.42	8.1411	1.6351	0.0382	0.2008	21.784	0.3487
0.44	8.1136	1.5907	0.0389	0.1961	22.2448	0.3494
0.455	8.094	1.5585	0.0394	0.1926	22.5681	0.3499
0.475	8.0702	1.5149	0.04	0.1877	22.939	0.3505

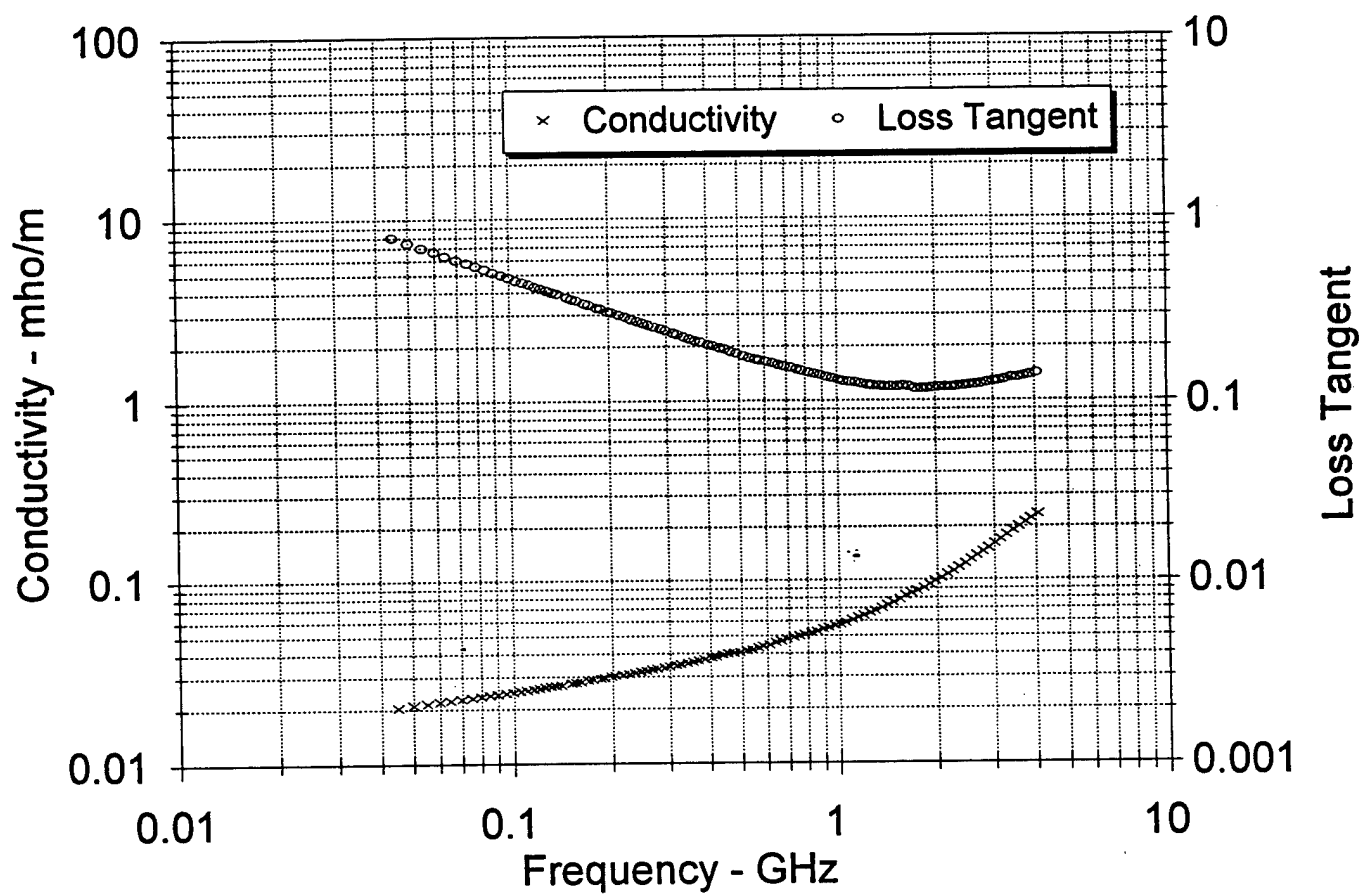


0.495	8.0492	1.4724	0.0405	0.1829	23.2698	0.351
0.52	8.0305	1.4223	0.0411	0.1771	23.6469	0.3515
0.54	8.0234	1.3865	0.0416	0.1728	23.953	0.3517
0.565	8.0151	1.3573	0.0426	0.1693	24.5517	0.352
0.585	8.0026	1.3388	0.0435	0.1673	25.0949	0.3523
0.61	7.9824	1.3143	0.0446	0.1647	25.7247	0.3528
0.64	7.9584	1.2843	0.0457	0.1614	26.4163	0.3533
0.665	7.9398	1.2593	0.0466	0.1586	26.9486	0.3538
0.695	7.9202	1.2319	0.0476	0.1555	27.5886	0.3543
0.725	7.9013	1.2056	0.0486	0.1526	28.2019	0.3547
0.755	7.8796	1.1809	0.0496	0.1499	28.8102	0.3553
0.785	7.8679	1.1558	0.0505	0.1469	29.3435	0.3556
0.82	7.851	1.1299	0.0515	0.1439	29.9988	0.356
0.855	7.8354	1.1068	0.0526	0.1413	30.675	0.3564
0.895	7.8197	1.0831	0.0539	0.1385	31.4565	0.3568
0.93	7.8064	1.0628	0.055	0.1361	32.1021	0.3571
0.97	7.7922	1.0414	0.0562	0.1336	32.8429	0.3574
1.015	7.7798	1.0194	0.0575	0.131	33.6716	0.3578
1.055	7.7721	1.002	0.0588	0.1289	34.4178	0.358
1.1	7.7642	0.9882	0.0604	0.1273	35.4139	0.3582
1.15	7.751	0.9757	0.0624	0.1259	36.5865	0.3585
1.195	7.7393	0.9637	0.064	0.1245	37.5819	0.3588
1.25	7.7274	0.9493	0.066	0.1228	38.7546	0.3591
1.3	7.7184	0.9385	0.0678	0.1216	39.8717	0.3593
1.36	7.709	0.9282	0.0702	0.1204	41.2808	0.3595
1.415	7.7012	0.9215	0.0725	0.1197	42.6634	0.3597
1.475	7.6925	0.9175	0.0753	0.1193	44.3028	0.3599
1.54	7.6821	0.9171	0.0785	0.1194	46.2665	0.3602
1.605	7.6655	0.9191	0.082	0.1199	48.3778	0.3605
1.675	7.6402	0.9097	0.0847	0.1191	50.0542	0.3611
1.745	7.6324	0.8932	0.0867	0.117	51.23	0.3614
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1.9	7.6222	0.8933	0.0944	0.1172	55.8235	0.3616
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2.25	7.5714	0.898	0.1124	0.1186	66.6756	0.3628
2.345	7.5615	0.9013	0.1175	0.1192	69.7859	0.363
2.445	7.5514	0.9069	0.1233	0.1201	73.266	0.3633
2.55	7.5398	0.9155	0.1298	0.1214	77.1931	0.3635
2.66	7.5252	0.9246	0.1368	0.1229	81.3977	0.3639
2.775	7.5103	0.9306	0.1436	0.1239	85.5514	0.3642
2.89	7.4991	0.9384	0.1508	0.1251	89.9029	0.3645
3.015	7.4844	0.9499	0.1592	0.1269	95.0268	0.3648
3.145	7.4697	0.9599	0.1679	0.1285	100.269	0.3651
3.28	7.4562	0.9736	0.1776	0.1306	106.146	0.3654
3.42	7.4364	0.9893	0.1881	0.133	112.6032	0.3659
3.57	7.4173	0.9979	0.1981	0.1345	118.7115	0.3664
3.72	7.4036	1.0071	0.2083	0.136	124.9509	0.3667
3.88	7.391	1.0204	0.2202	0.1381	132.148	0.367
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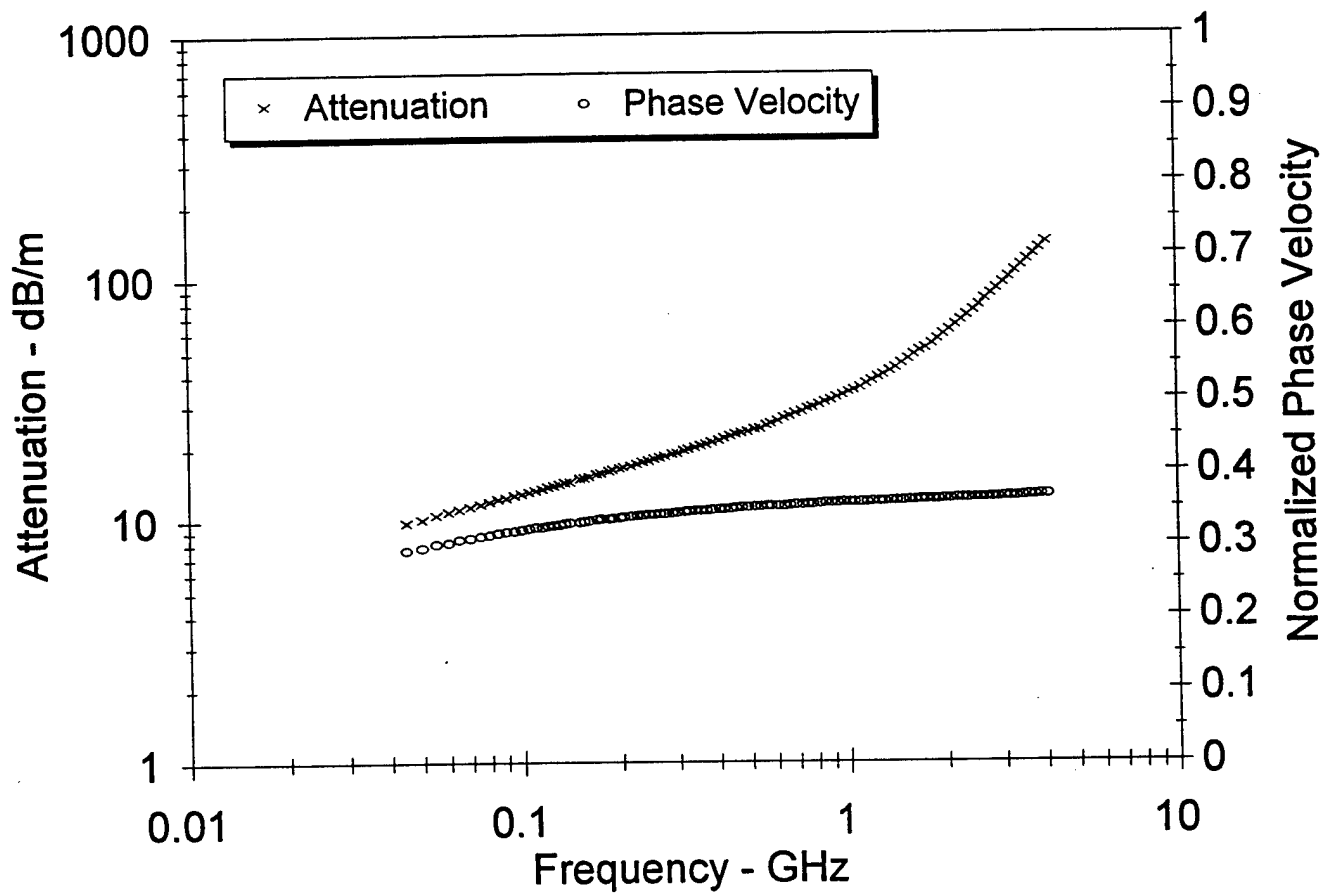
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20 deg C, Mv = 16.4%, 1.520 g/cc (dry)



FT CARSON - D , File: 12AG61552  
20 deg C, Mv = 16.4%, 1.520 g/cc (dry)



FT CARSON - D , File: 12AG61552  
20 deg C, Mv = 16.4%, 1.520 g/cc (dry)



14AG61700  
FT CARSON -D

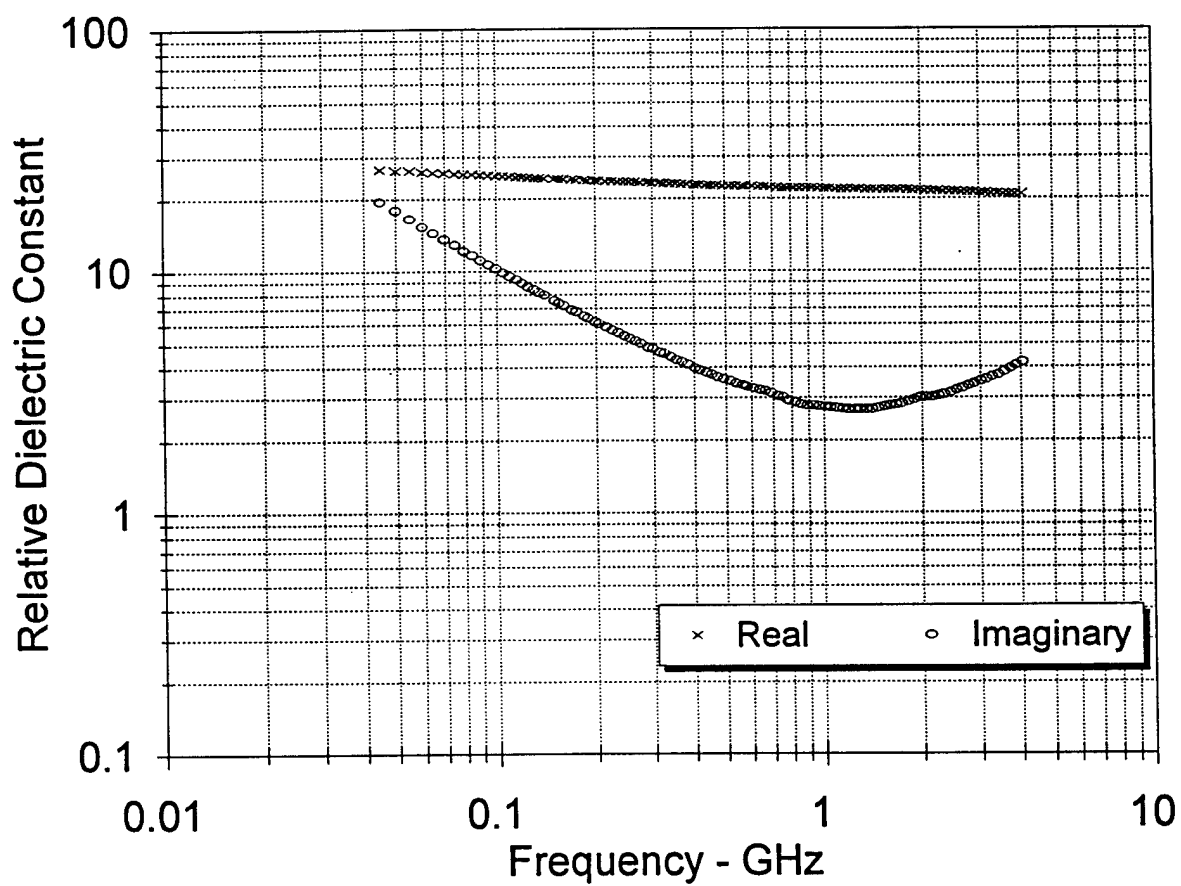
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4  
36.2  
20  
1.52

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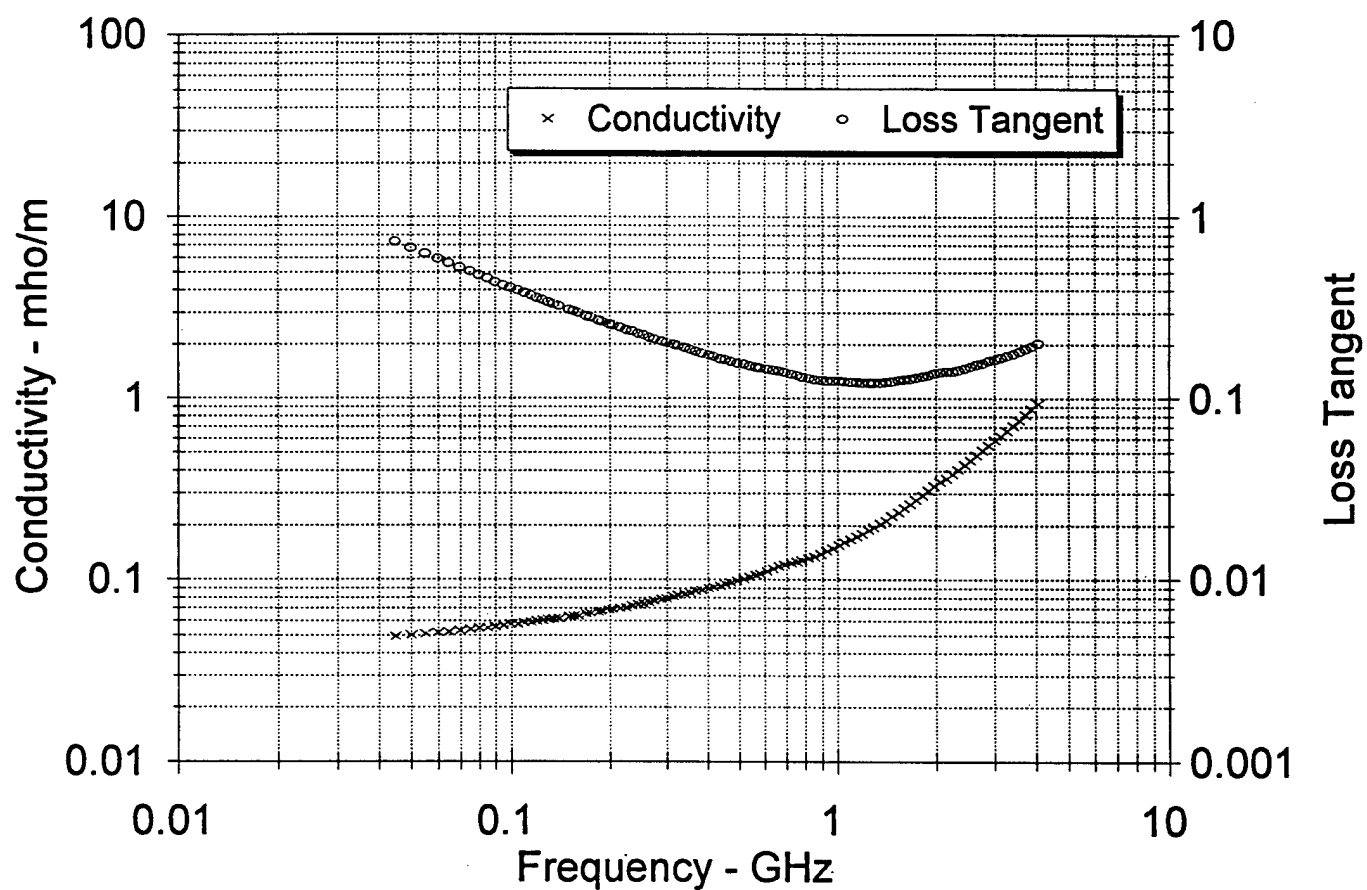
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0.055	26.2088	16.5449	0.0506	0.6313	15.4766	0.187
0.06	26.0072	15.3697	0.0513	0.591	15.8213	0.1886
0.065	25.8557	14.4264	0.0521	0.558	16.1966	0.1899
0.07	25.715	13.6056	0.053	0.5291	16.5483	0.191
0.075	25.544	12.8562	0.0536	0.5033	16.8565	0.1922
0.08	25.4218	12.198	0.0543	0.4798	17.1426	0.1931
0.085	25.2885	11.6187	0.0549	0.4594	17.4306	0.194
0.09	25.1715	11.1092	0.0556	0.4413	17.719	0.1948
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0.17	24.014	6.8704	0.0649	0.2861	21.4647	0.202
0.175	23.97	6.7299	0.0655	0.2808	21.6719	0.2023
0.185	23.8826	6.4709	0.0666	0.2709	22.083	0.2028
0.19	23.8433	6.3545	0.0671	0.2665	22.2965	0.203
0.2	23.7722	6.1343	0.0682	0.258	22.7027	0.2034
0.205	23.7336	6.0339	0.0688	0.2542	22.9131	0.2037
0.215	23.6653	5.8449	0.0699	0.247	23.3219	0.204
0.225	23.6079	5.6708	0.0709	0.2402	23.7179	0.2044
0.235	23.5455	5.5204	0.0721	0.2345	24.1546	0.2047
0.245	23.4876	5.3675	0.0731	0.2285	24.5236	0.205
0.255	23.4369	5.2364	0.0742	0.2234	24.9346	0.2053
0.265	23.3834	5.1122	0.0753	0.2186	25.3334	0.2056
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0.405	22.8418	3.9707	0.0894	0.1738	30.4915	0.2085
0.42	22.8023	3.8896	0.0908	0.1706	31.0055	0.2087
0.44	22.7548	3.7948	0.0928	0.1668	31.7286	0.2089
0.455	22.7205	3.7284	0.0943	0.1641	32.2644	0.2091
0.475	22.6791	3.6484	0.0964	0.1609	32.9938	0.2093

0.495	22.6379	3.5755	0.0984	0.1579	33.7304	0.2095
0.52	22.5937	3.4942	0.101	0.1547	34.6671	0.2098
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0.585	22.4748	3.3241	0.1081	0.1479	37.2095	0.2104
0.61	22.4339	3.2704	0.1109	0.1458	38.2095	0.2106
0.64	22.3808	3.2253	0.1148	0.1441	39.5859	0.2108
0.665	22.3184	3.1893	0.1179	0.1429	40.7315	0.2111
0.695	22.2426	3.1213	0.1206	0.1403	41.7353	0.2115
0.725	22.1923	3.0465	0.1228	0.1373	42.5467	0.2118
0.755	22.1627	3.0031	0.1261	0.1355	43.7075	0.2119
0.785	22.1342	2.9198	0.1275	0.1319	44.2182	0.2121
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0.895	22.0756	2.782	0.1385	0.126	48.107	0.2124
0.93	22.0622	2.7641	0.1429	0.1253	49.6828	0.2125
0.97	22.0373	2.7595	0.1488	0.1252	51.7626	0.2126
1.015	21.9941	2.7466	0.155	0.1249	53.9648	0.2128
1.055	21.9633	2.7278	0.16	0.1242	55.7482	0.213
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1.195	21.8715	2.6862	0.1785	0.1228	62.3151	0.2134
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1.475	21.79	2.7153	0.2227	0.1246	77.8911	0.2138
1.54	21.7662	2.7414	0.2348	0.1259	82.145	0.2139
1.605	21.7394	2.7686	0.2471	0.1274	86.5115	0.214
1.675	21.7086	2.7974	0.2606	0.1289	91.2858	0.2142
1.745	21.685	2.8284	0.2744	0.1304	96.2003	0.2143
1.82	21.6534	2.8745	0.2909	0.1327	102.0368	0.2144
1.9	21.6045	2.9292	0.3095	0.1356	108.6618	0.2147
1.98	21.5417	2.9756	0.3276	0.1381	115.1897	0.2149
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2.25	21.3837	3.0361	0.3799	0.142	134.033	0.2157
2.345	21.3622	3.0812	0.4018	0.1442	141.828	0.2158
2.445	21.3341	3.14	0.4269	0.1472	150.7814	0.2159
2.55	21.3005	3.2054	0.4545	0.1505	160.6408	0.2161
2.66	21.268	3.2744	0.4843	0.154	171.2853	0.2162
2.775	21.2297	3.3481	0.5166	0.1577	182.8506	0.2164
2.89	21.184	3.4167	0.5491	0.1613	194.5085	0.2166
3.015	21.1318	3.4807	0.5835	0.1647	206.9512	0.2168
3.145	21.0807	3.5468	0.6203	0.1683	220.2118	0.217
3.28	21.0257	3.6227	0.6607	0.1723	234.8422	0.2173
3.42	20.9668	3.7104	0.7056	0.177	251.0957	0.2175
3.57	20.9035	3.8158	0.7575	0.1825	269.9002	0.2178
3.72	20.8464	3.9315	0.8132	0.1886	290.0816	0.2181
3.88	20.7943	4.057	0.8753	0.1951	312.514	0.2183
4.045	20.746	4.1803	0.9403	0.2015	335.9921	0.2185

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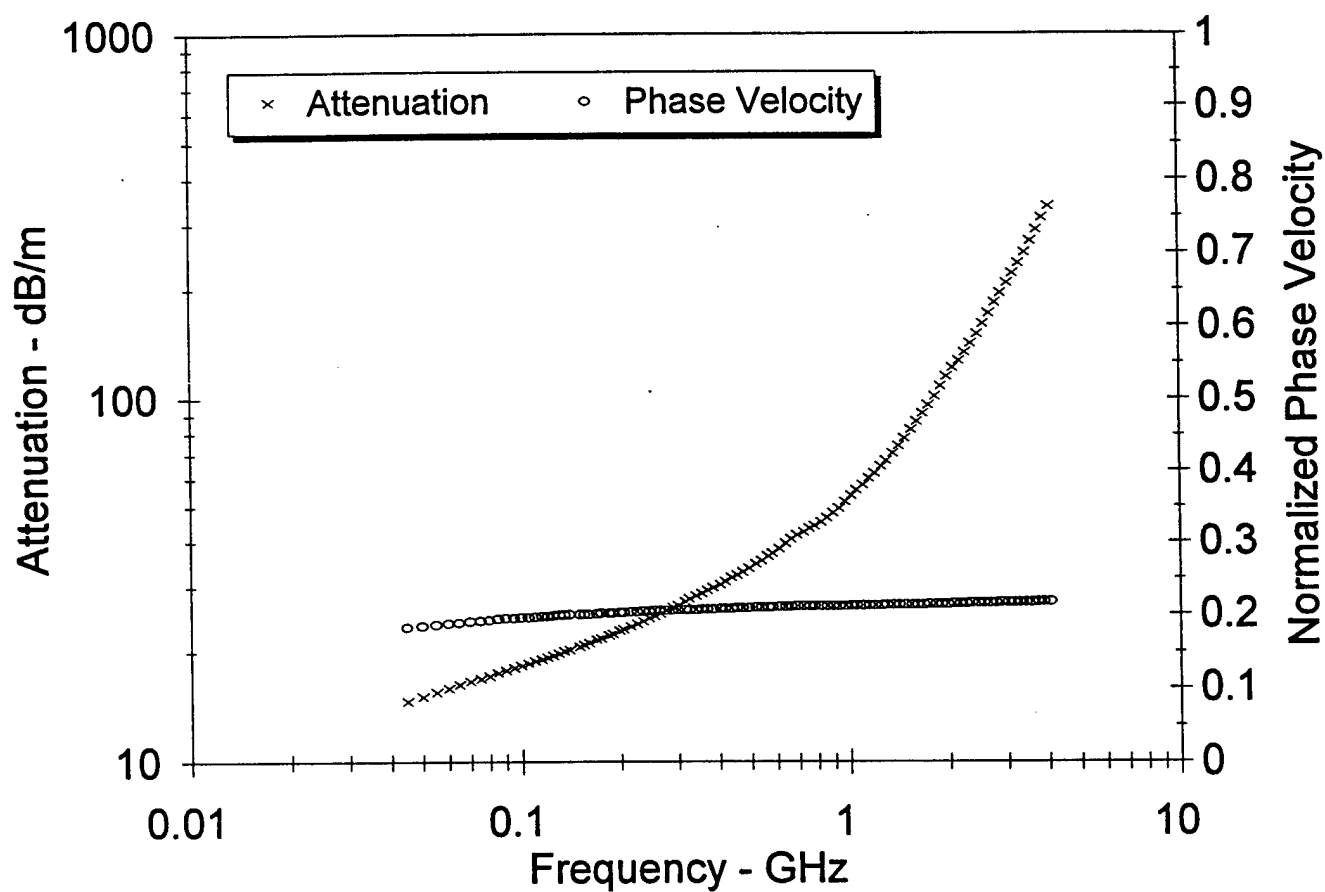


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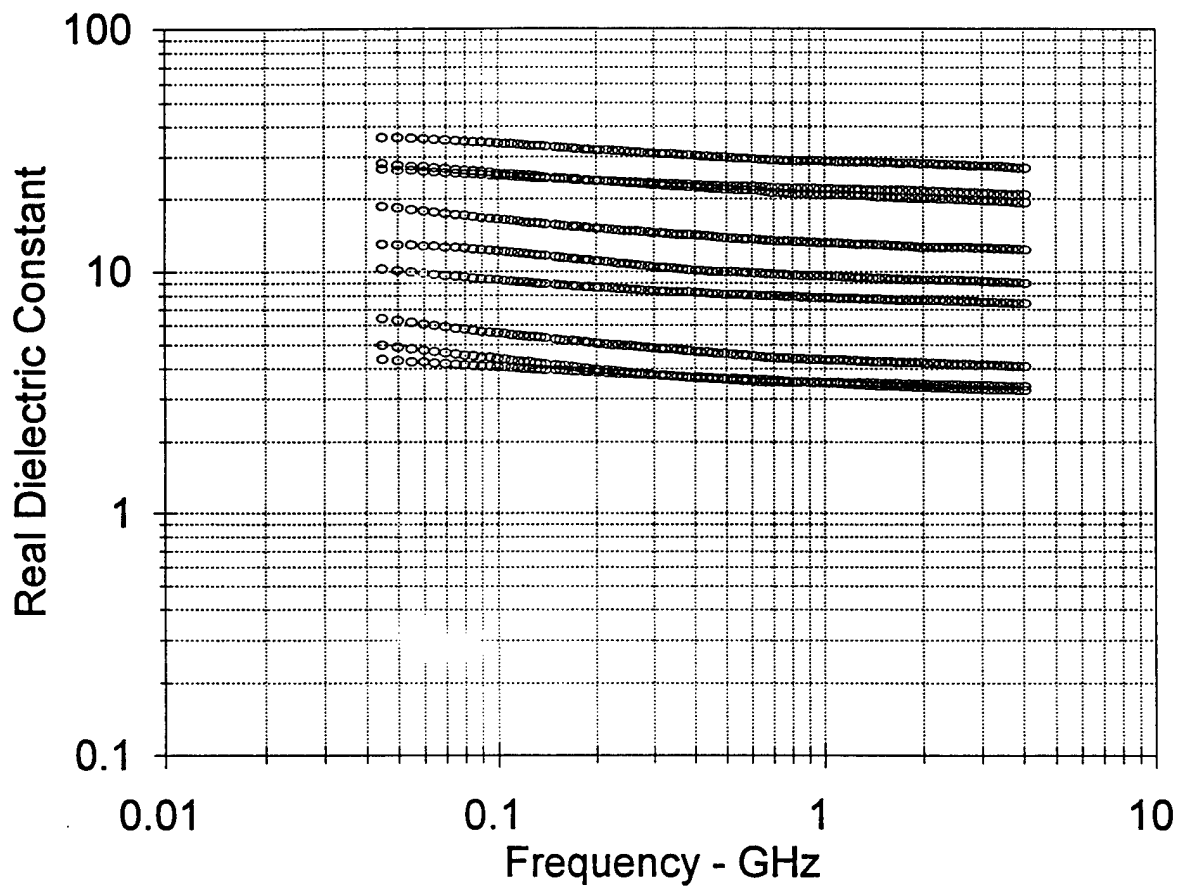


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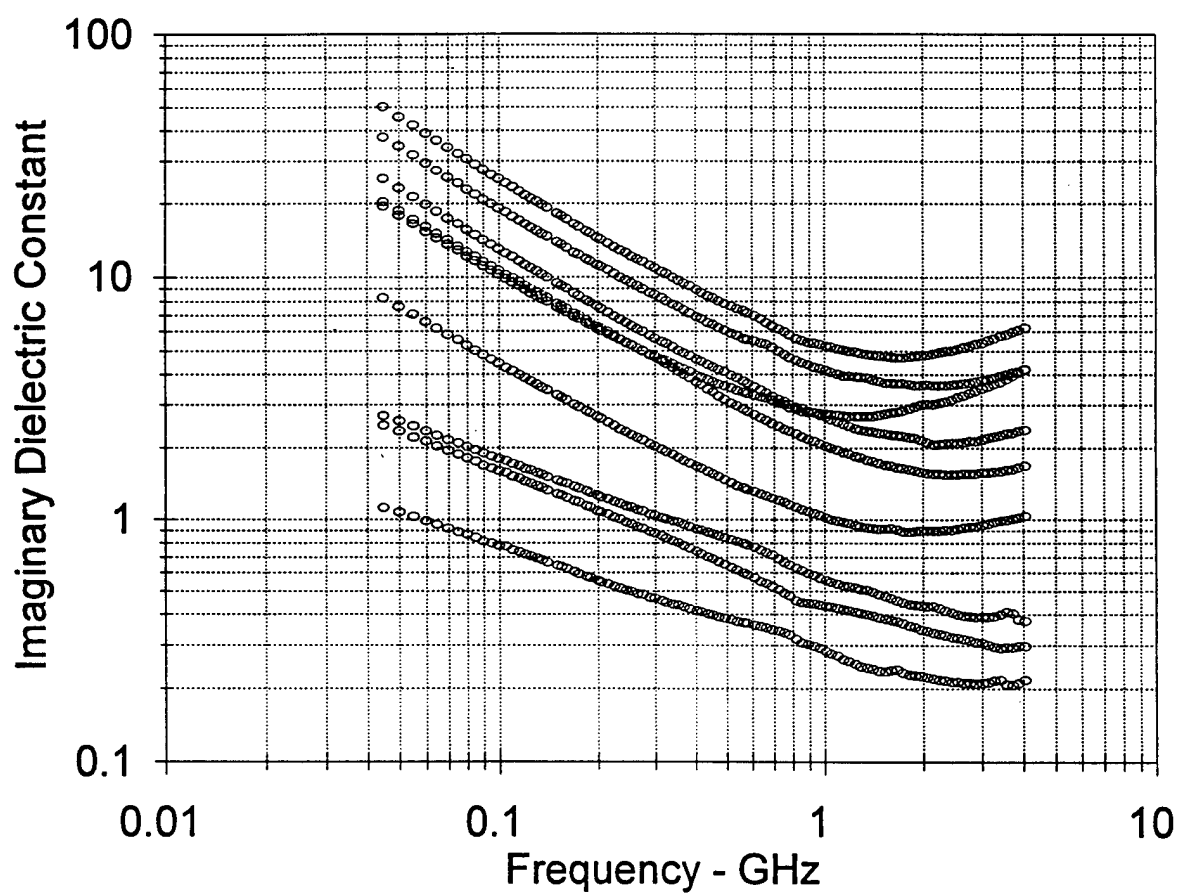


**Fort Carson  
Collective Sample Results**

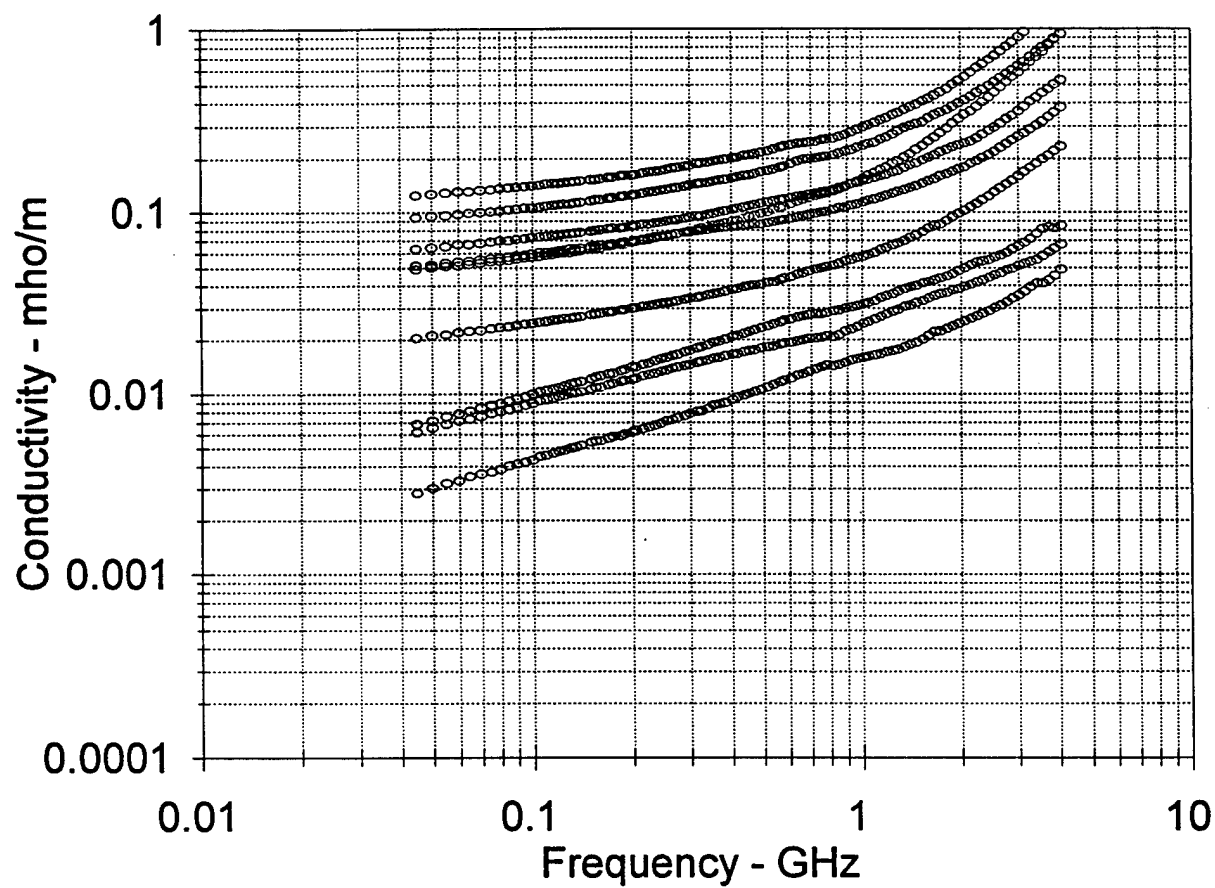
Fort Carson Soil Samples - All Data



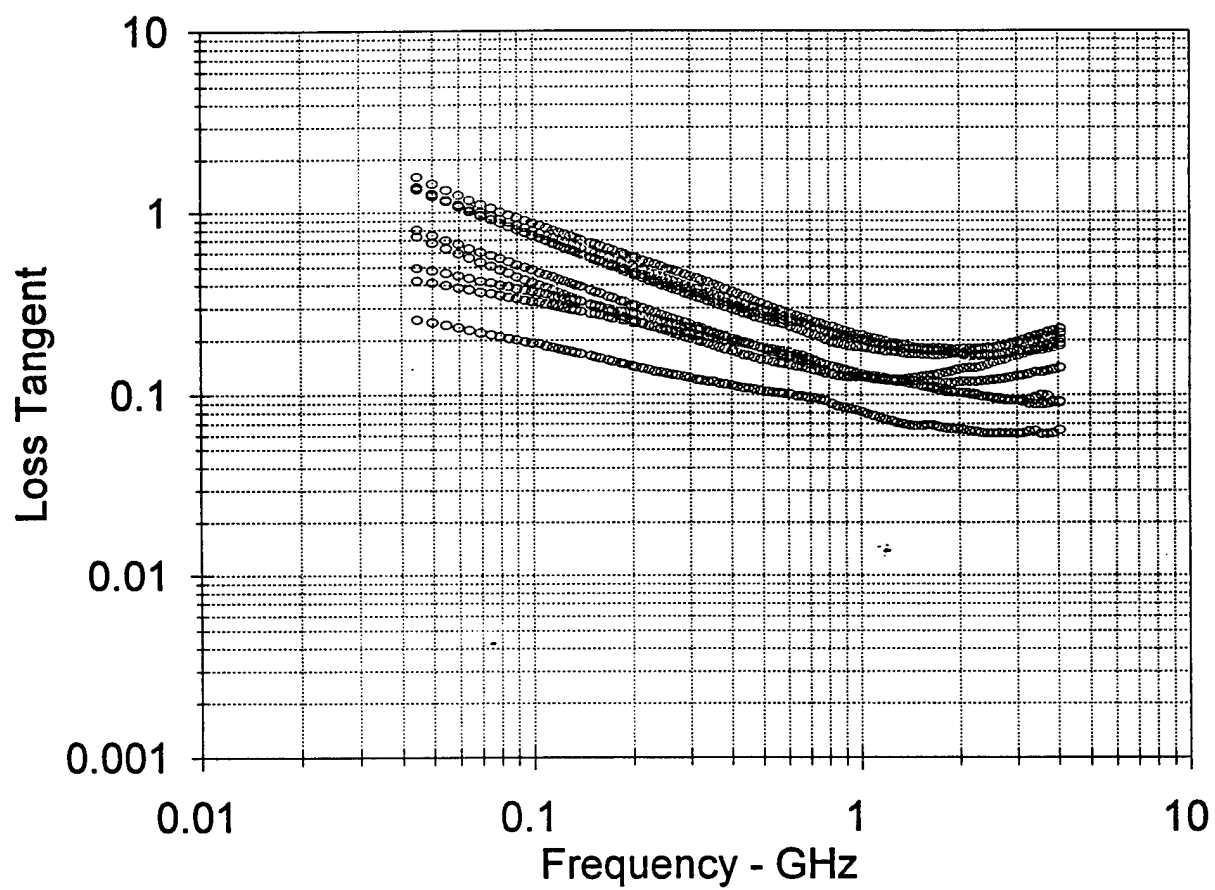
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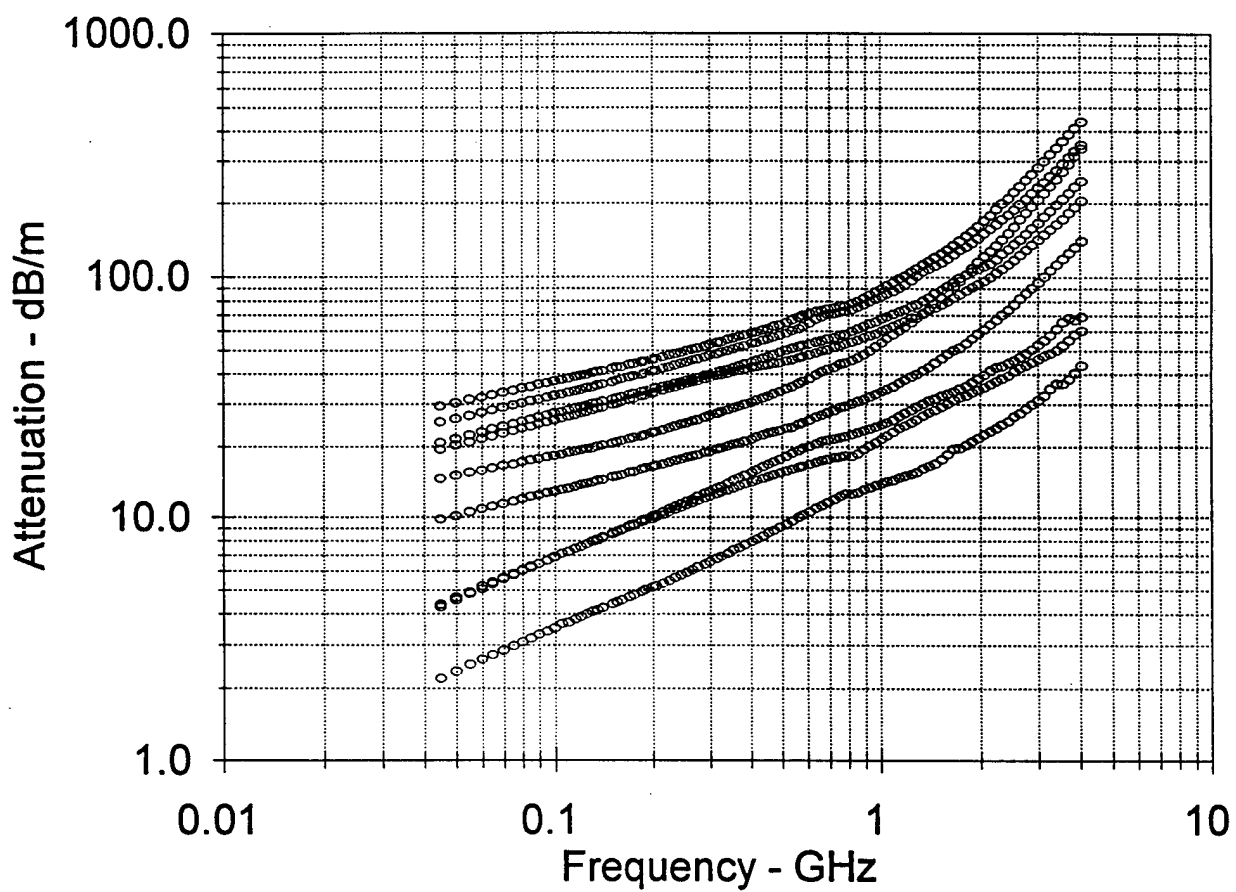
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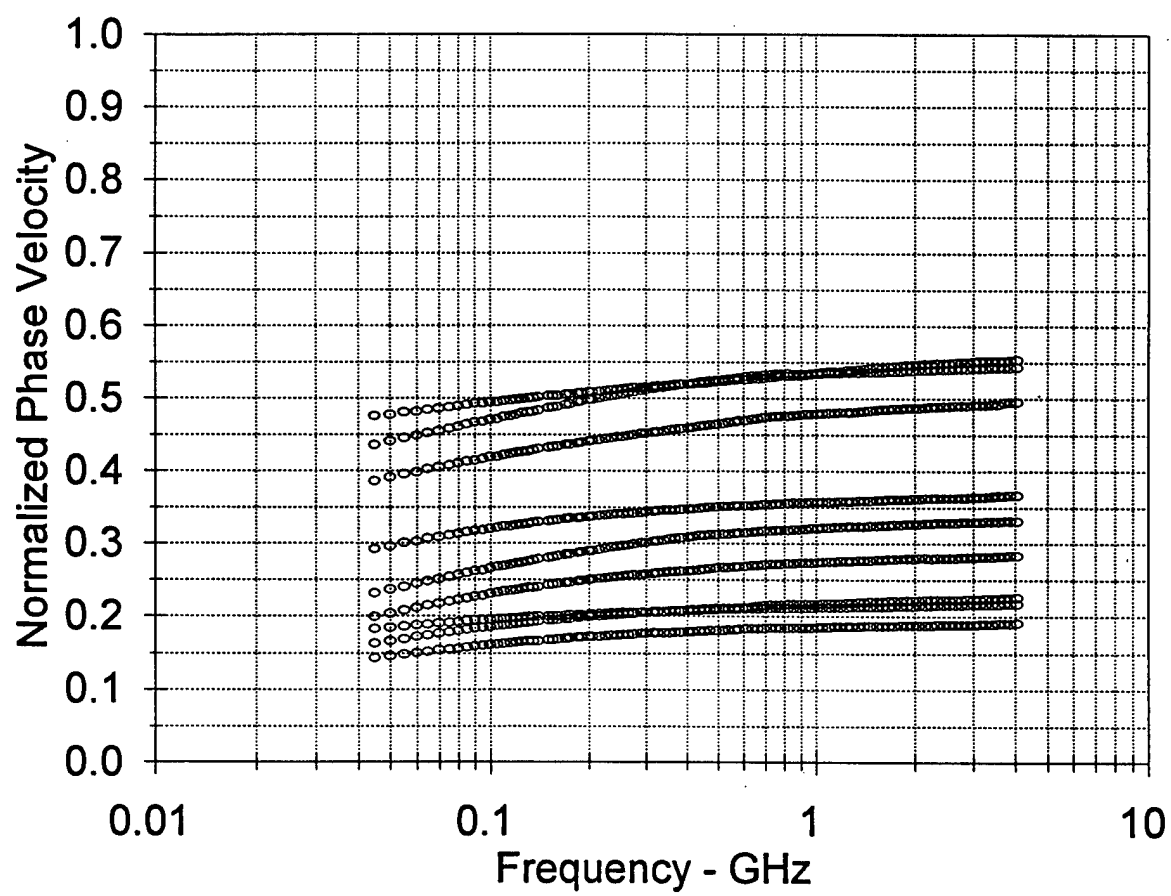
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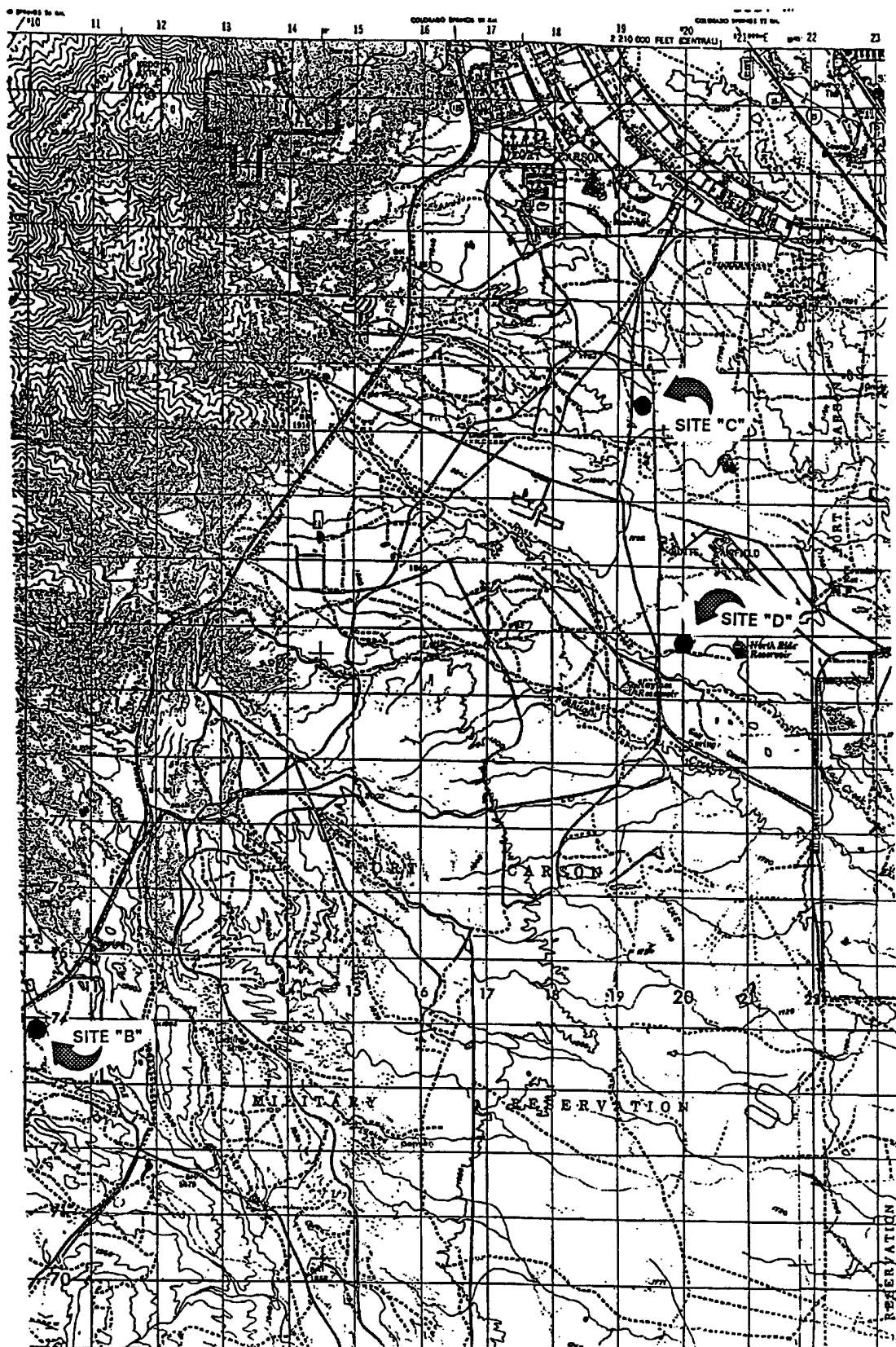
Fort Carson Soil Samples - All Data



### Fort Carson Soil Samples - All Data







Fort Carson

20 September 1996

## Data Report

# Dielectric Properties of Soils

Fort Carson, CO -- 2nd Sample Set

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## Introduction

This report contains dielectric property measurement results for soils. The original data were collected in the form of the real and imaginary parts of the complex dielectric constant versus frequency utilizing a Hewlett-Packard 8510C Vector Network Analyzer System with an S-Parameter Test Set and a coaxial sample holder. Software developed at the U.S. Army Engineer Waterways Experiment Station was used to convert S-parameter measurements at selected frequencies into a complex dielectric constant. The soils were assumed to be nonmagnetic. Other useful electromagnetic properties were calculated from the dielectric constant and frequency, including an equivalent electrical conductivity, the loss tangent, power attenuation, and a normalized phase velocity. The section entitled, "Fundamental Relationships," contains the formulae used to calculate these properties. Additional physical parameters of the soil samples that are included in the report include their dry density, volumetric moisture content, and temperature.

Measurement results and calculated parameters are displayed in two sections. The first includes properties at a selected frequency(ies) and displayed as a function of volumetric moisture content. The intent of presenting data in this way is to demonstrate the experimental observation that the real part of the dielectric constant, as well as the normalized phase velocity are strong functions of volumetric moisture and reasonably independent of soil texture. Other parameters are clearly dependent on soil texture, and, given enough data from several different types of soils, their graphs versus moisture content would show a great deal of scatter. The second set of graphs and tables contain parameters plotted versus frequency for each individual sample tested with the laboratory apparatus.

For additional details on how the data were collected, please contact me at the U.S. Army Engineer Waterways Experiment Station (WES), Vicksburg, MS, (voice: 601-634-2855, FAX: 601-634-2732, e-mail: [curtisj@ex1.wes.army.mil](mailto:curtisj@ex1.wes.army.mil)).

## Source of Soil Samples

The samples used for these measurements were collected during a 15 August 1996 visit to Fort Carson, CO, by Dr. Janet Simms, a research geophysicist from WES' Geotechnical Laboratory. Five bag samples of soil were taken from the upper ten centimeters at each site. An x-y position, in meters, relative to an origin located at the southwest corner of each rectangular site was used to label each sample. The two test sites at Fort Carson have been given the names of Turkey Creek (identified as Site B in an earlier data report) and Seabee (formerly called Site C). Electrical property data for individual soil samples have been given unique identifiers making use of both the site name and the relative position. For example, TC77.5E60.5N refers to a sample from the Turkey Creek site whose location is 77.5 meters east and 60.5 meters north of the southwest corner. Although such conditions have no bearing on the data reported, herein, Dr. Simms noted that the Turkey Creek site received about thirty minutes of light rain approximately two hours prior to collection of the surface samples.

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127

501-634-2732

## Experimental Procedures

The experimental procedure used to collect electrical property data at WES normally consists of the following steps. First of all, soil is taken from the source container and packed into a brass coaxial sample holder using small spoons and other utensils. The holders used in these measurements have a square cross section whose dimension is 0.75 cm and are either 5 cm or 10 cm in length, resulting in total sample volumes of about 2.8 cm<sup>3</sup> and 5.6 cm<sup>3</sup>, respectively. The samples are packed as tightly as possible at whatever moisture content they retained in the bags. Hence, there is no control over sample dry density. It is highly unlikely, however, that the densities achieved by this sample preparation technique will ever exceed *in situ* densities.

After enclosing the sample in the holder with a brass cover plate, the holder is placed in a temperature control device and connected to the S-parameter test set. After the sample has reached the desired temperature, data are collected over the selected range of frequencies. Following removal of the sample holder from the temperature control apparatus, the cover plate is removed, and the sample is allowed to air dry (usually for a twenty-four hour period). After the collected of a second set of data at nominally-dry conditions, the sample is wetted to near saturation by the careful addition of distilled, deionized water. After allowing some time for the added moisture to fully penetrate the soil structure (usually about an hour), the electrical properties are once again measured. Therefore, each sample is tested three times, once as is, once after air drying, and once at near-saturation conditions. The addition of water would not work for a sample that contained a large amount of swelling clay minerals, as the sample would expand too far out of the sample holder to allow a measurement to be made.

Sample masses are recorded prior to each measurement. Following the last data collection, the soil is scraped and flushed from the sample holder and dried in an oven to obtain its dry mass, which, by virtue of knowing the sample volume, leads to the sample dry density and the calculation of sample volumetric moisture contents for each measurement. Of course, these data can also be used to calculate the commonly used weight-based moisture content as well.

## Fundamental Relationships

Assuming plane harmonic wave propagation in a lossy, non-magnetic, unbounded medium, the wave amplitude function may be written:

$$e^{i(kx - \omega t)}$$

where

$$k = \beta + i\alpha = \omega N/c$$

$k$  is the complex propagation constant,

$\beta$  is the phase constant,

$\alpha$  is the amplitude attenuation factor,

$\omega$  is the radial frequency,

$N$  is the complex index of refraction,

$c$  is the velocity of light in a vacuum,

$i$  is the symbol designating an imaginary quantity =  $\sqrt{-1}$ ,

$x$  is a space coordinate, and

$t$  is time.

Furthermore,

$$N^2 = \epsilon = \epsilon' + \epsilon''$$

where  $\epsilon$  is the relative complex dielectric constant, which, along with the electrical conductivity from Ohm's Law, represents the electrical properties of the medium. The interpretation of these properties as used in this study is that the conductivity,  $\sigma$ , accounts for current due to free charged particle motion, while the imaginary part of the complex dielectric constant,  $\epsilon''$ , accounts for displacement current losses (those due to the electric polarization of the medium). When both conduction and displacement currents are considered, one finds two terms in Ampere's law for current flow that represent losses (or a shift in phase), one containing the electrical conductivity and one containing the imaginary part of the dielectric constant. While these two terms account

for different loss mechanisms, most researchers use only one term or the other to identify losses, with many users preferring to deal with the concept of electrical conductivity. In MKS units, the relationship between the two quantities is taken to be

$$\sigma = \epsilon''\epsilon_0\omega$$

where the units of conductivity are mhos/meter (or siemens/meter) and  $\epsilon_0$  is the permittivity of free space ( $8.85 \times 10^{-12}$  farads/meter).

Squaring the expression for the complex propagation constant, substituting the expression for the square of the complex index of refraction, and equating real and imaginary components, one obtains two algebraic equations that relate the amplitude attenuation factor and phase constant to the complex dielectric constant:

$$\beta^2 - \alpha^2 = \frac{\omega^2}{c^2}\epsilon'$$

and

$$\alpha\beta = \frac{\omega^2\epsilon''}{2c^2}$$

Solving these equations for the amplitude attenuation factor and for the phase constant results in the following expressions:

$$\alpha = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$

and

$$\beta = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{1/2}$$

The  $\epsilon''/\epsilon'$  ratio is also referred to as the loss tangent. Some researchers prefer to work with electrical conductivity in place of the dielectric loss term.

Plane waves of constant phase will propagate with a velocity

$$v = \frac{\omega}{\beta} = c \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{-1/2}$$

This phase velocity is not necessarily the speed with which the energy of the wave propagates through the

medium. The latter is referred to as the group velocity and can be calculated as the rate of change of radial frequency with respect to the phase constant. However, as long as the phase velocity is relatively constant over the range of frequencies of interest, then there is little difference between phase velocity and group velocity.

The power intensity of the plane electromagnetic wave decreases exponentially with depth of penetration by the factor,  $e^{-2\alpha x}$ , or, in one unit of distance traveled, a decrease of  $e^{-2\alpha}$ . Power attenuation expressed in decibels per meter can then be written as:

$$PL = -8.6859 \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$



Fort Carson\_2  
Properties at 50 Mhz

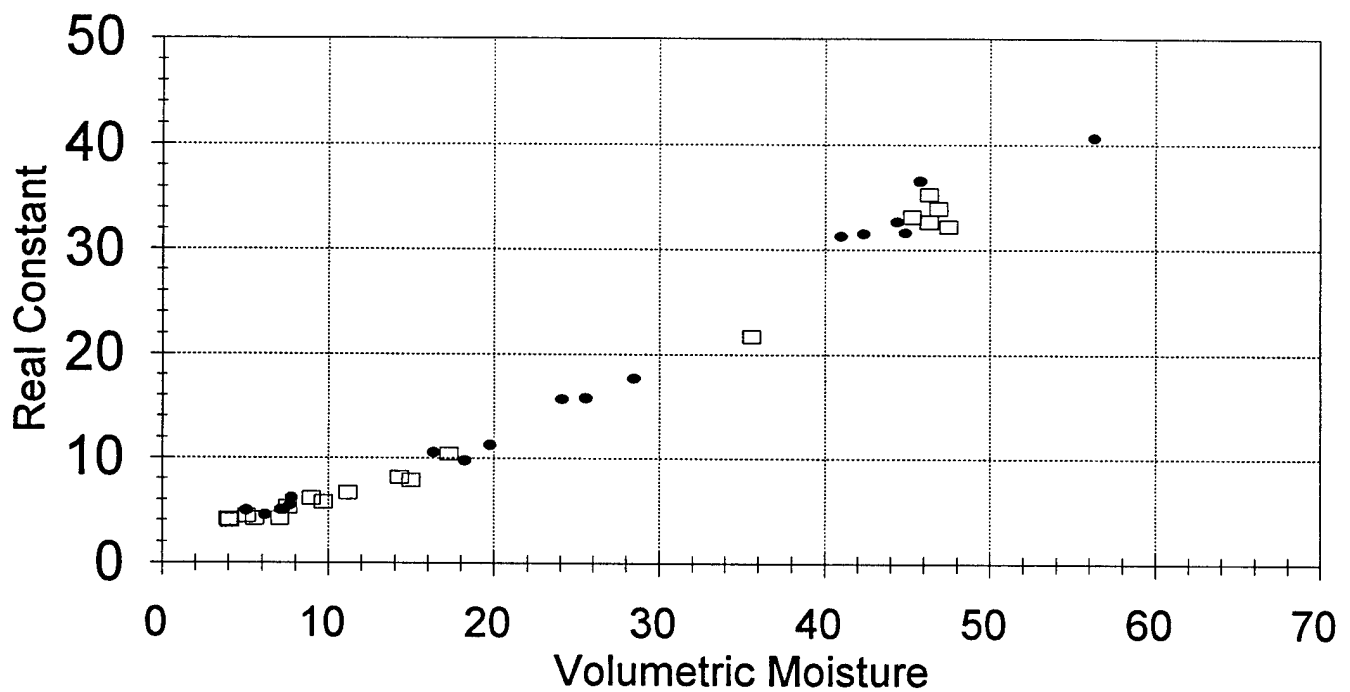
# Fort Carson\_2 Soil Properties at 50 MHz

Vol. Moisture - %	Re(Dielectric)	Im(Dielectric)	Cond. - mho/m	Loss Tangent	Attn. - dB/m	Norm. Velocity	
18.3	9.7714	6.8991	0.0192	0.706	9.5183	0.3034	Seabee, 40E, 23N, 1.18 g/cc
6.2	4.5807	1.7005	0.0047	0.3712	3.5546	0.4596	
56.3	40.6609	24.7409	0.0688	0.6085	16.9382	0.1505	
19.8	11.2808	10.3559	0.0288	0.918	12.9158	0.2742	Seabee, 40E, 23N, 1.31 g/cc
7.2	5.0493	2.2858	0.0064	0.4527	4.5173	0.4345	
44.4	32.7341	25.8564	0.0719	0.7899	19.2738	0.1639	
28.5	17.6596	15.7702	0.0438	0.893	15.7762	0.22	Seabee, 65E, 10.5N, 1.35 g/cc
7.3	5.0511	2.2254	0.0062	0.4406	4.4024	0.435	
44.9	31.6694	24.4196	0.0679	0.7711	18.5536	0.1671	
25.6	15.8053	15.2515	0.0424	0.965	15.9614	0.2301	Seabee, 52.5E, 85.5N, 1.38 g/cc
7.7	5.4334	2.6137	0.0073	0.481	4.9653	0.4177	
42.4	31.5879	26.5072	0.0737	0.8392	19.9781	0.1657	
16.4	10.5547	8.2714	0.023	0.7837	10.8674	0.2889	Seabee, 27.5E, 73N, 1.28 g/cc
5.1	4.9563	1.8934	0.0053	0.382	3.8015	0.4415	
41	31.3302	21.9781	0.0611	0.7015	16.9438	0.1695	
24.1	15.6808	16.4242	0.0457	1.0474	17.0494	0.2283	Seabee, 77.5E, 60.5N, 1.33 g/cc
7.8	6.1621	2.8441	0.0079	0.4615	5.0834	0.393	
45.8	36.5983	32.7868	0.0912	0.8959	22.7744	0.1527	
14.3	8.1304	5.6654	0.0158	0.6968	8.5791	0.333	Turkey Creek, 77.5E, 60.5N, 1.28 g/cc
5.1	4.4545	1.4319	0.004	0.3215	3.0474	0.4079	
45.3	33.2225	19.2767	0.0536	0.5802	14.6489	0.1671	
17.3	10.4476	9.0907	0.0253	0.8701	11.8619	0.2809	Turkey Creek, 77.5E, 60.5N, 1.40 g/cc
7.6	5.3021	2.1899	0.0061	0.413	4.2393	0.4057	
47.5	32.2767	22.2026	0.0617	0.6879	16.8937	0.1673	

9	6.122	2.8822	0.008	0.4708	5.1637	0.3939	Turkey Creek, 65E, 10.5N, 1.3 g/cc
4.1	4.0134	1.0917	0.003	0.272	2.4561	0.4947	
46.3	32.7345	16.0539	0.0446	0.4904	12.4129	0.17	
15	7.8917	4.7912	0.0133	0.6071	7.4467	0.3418	Turkey Creek, 52.5E, 85.5N, 1.33 g/cc
7.1	4.1853	1.3805	0.0038	0.3298	3.0291	0.4825	
35.6	21.7573	12.4141	0.0345	0.5706	11.6705	0.2067	
9.7	5.7558	5.9786	0.0166	1.0387	10.2569	0.3772	Turkey Creek, 27.5E, 73N, 1.32 g/cc
4	4.1322	1.2353	0.0034	0.2989	2.734	0.4866	
46.3	35.3541	20.4143	0.0568	0.5774	15.0434	0.162	
11.2	6.6674	4.1611	0.0116	0.6241	7.0218	0.371	Turkey Creek, 40E, 23N, 1.36 g/cc
5.6	4.1847	1.3933	0.0039	0.3329	3.0566	0.4824	
46.9	33.9899	18.4153	0.0512	0.5418	13.8962	0.1659	

## Fort Carson\_2

### Properties at 50 MHz

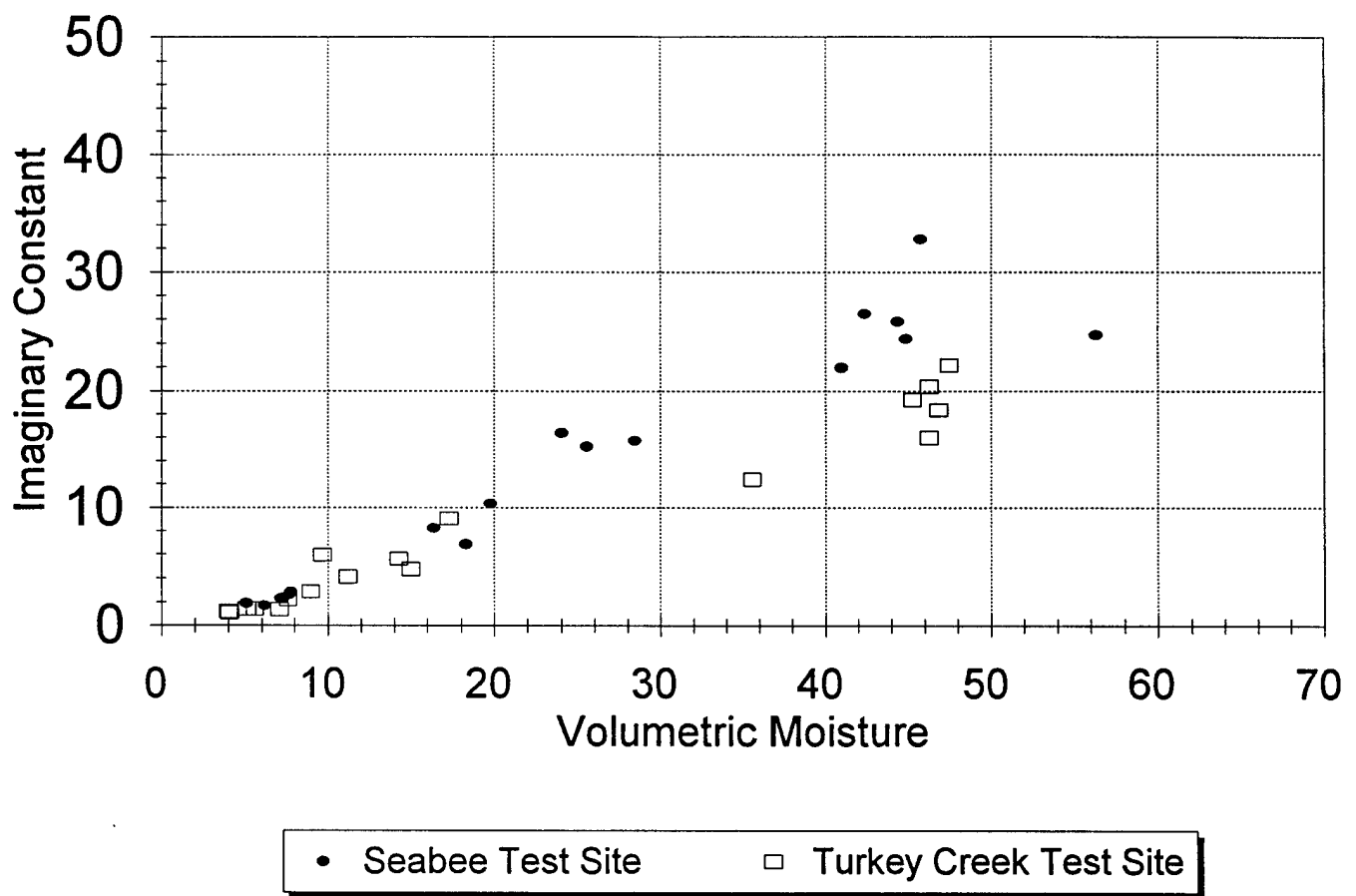


• Seabee Test Site

□ Turkey Creek Test Site

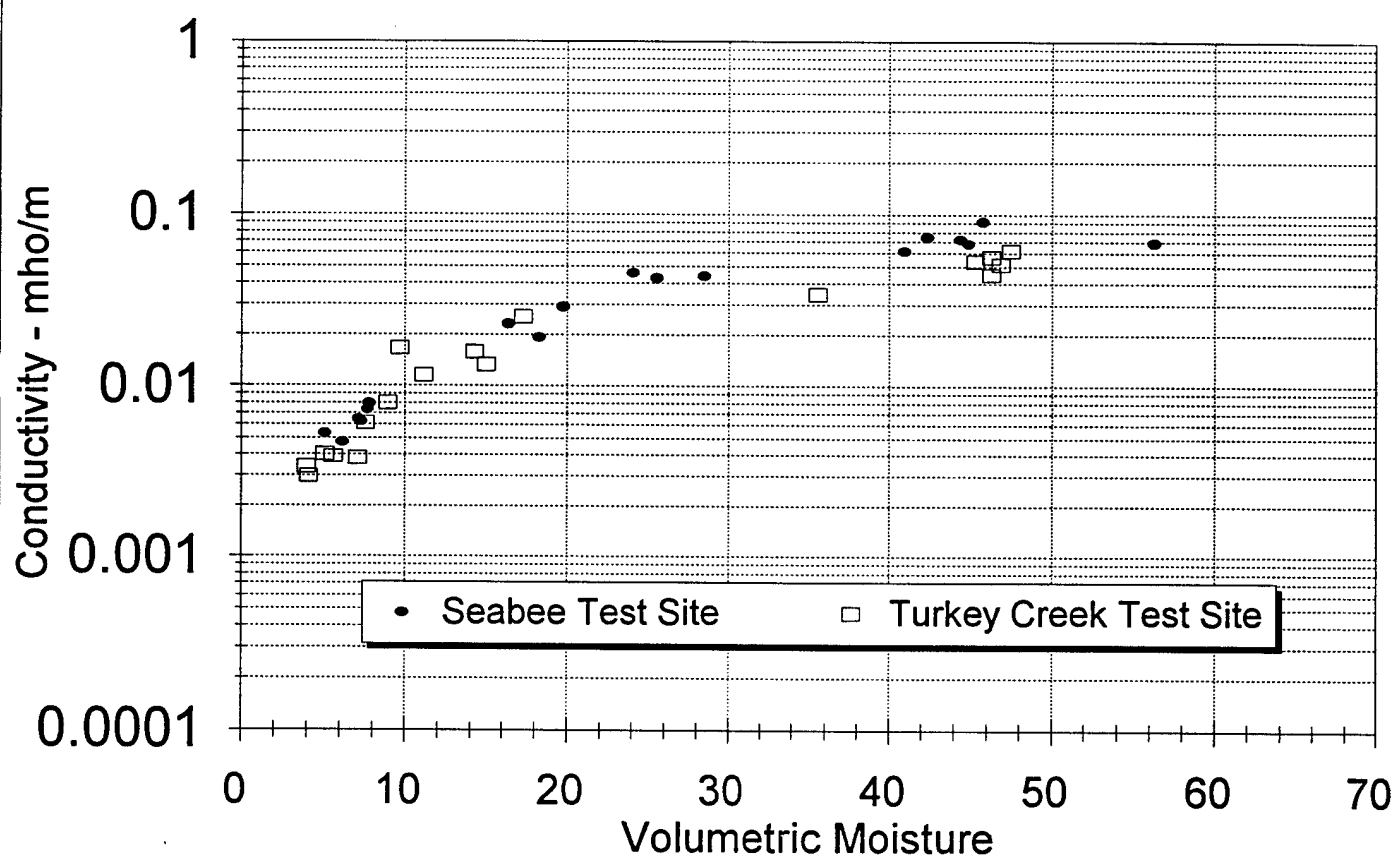
## Fort Carson\_2

### Properties at 50 MHz



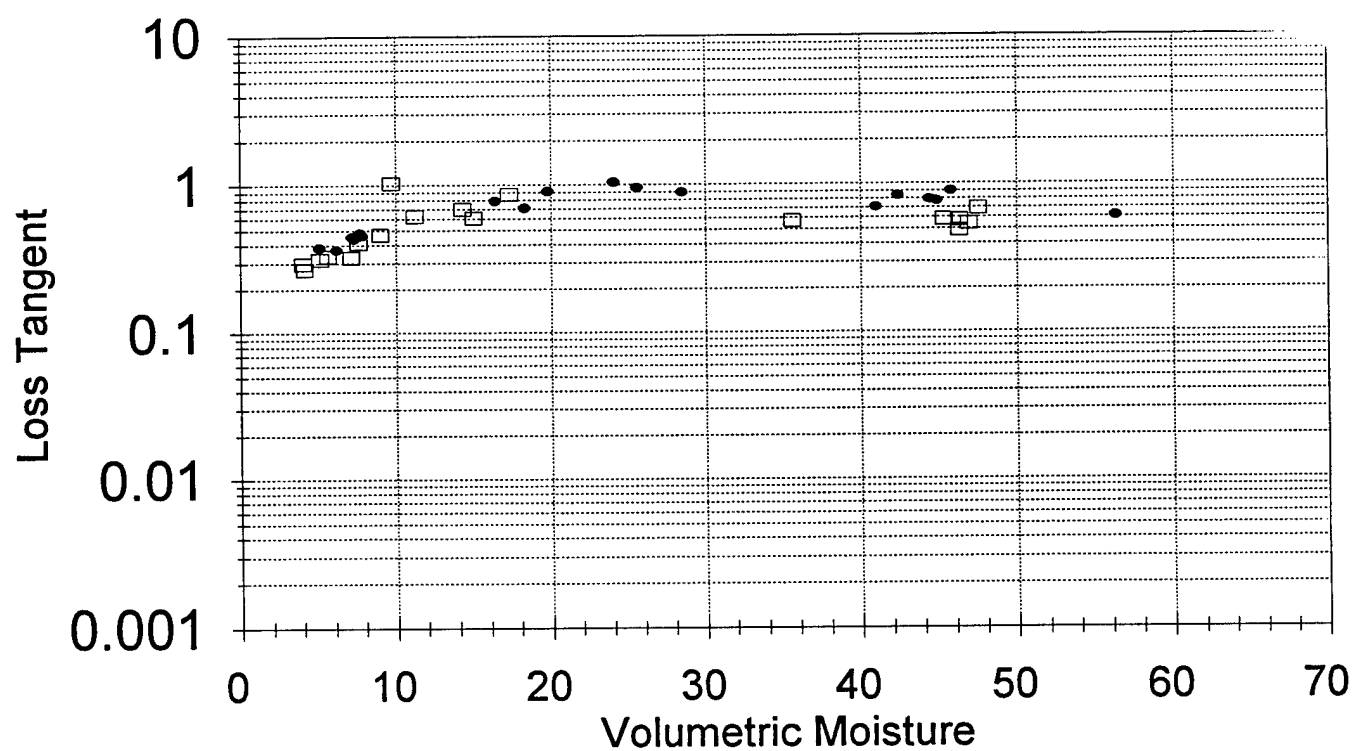
## Fort Carson\_2

### Properties at 50 MHz



## Fort Carson\_2

### Properties at 50 MHz

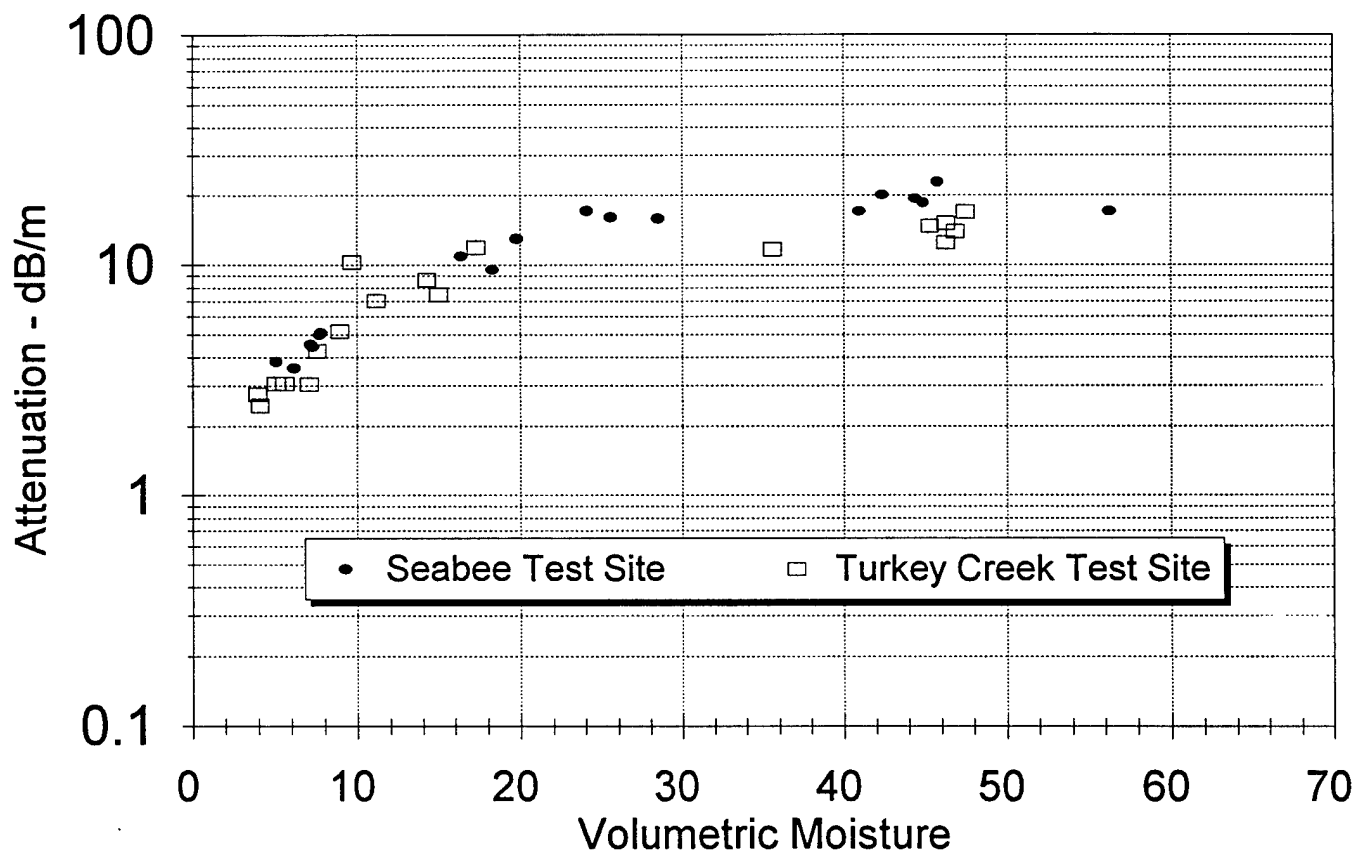


• Seabee Test Site

□ Turkey Creek Test Site

## Fort Carson\_2

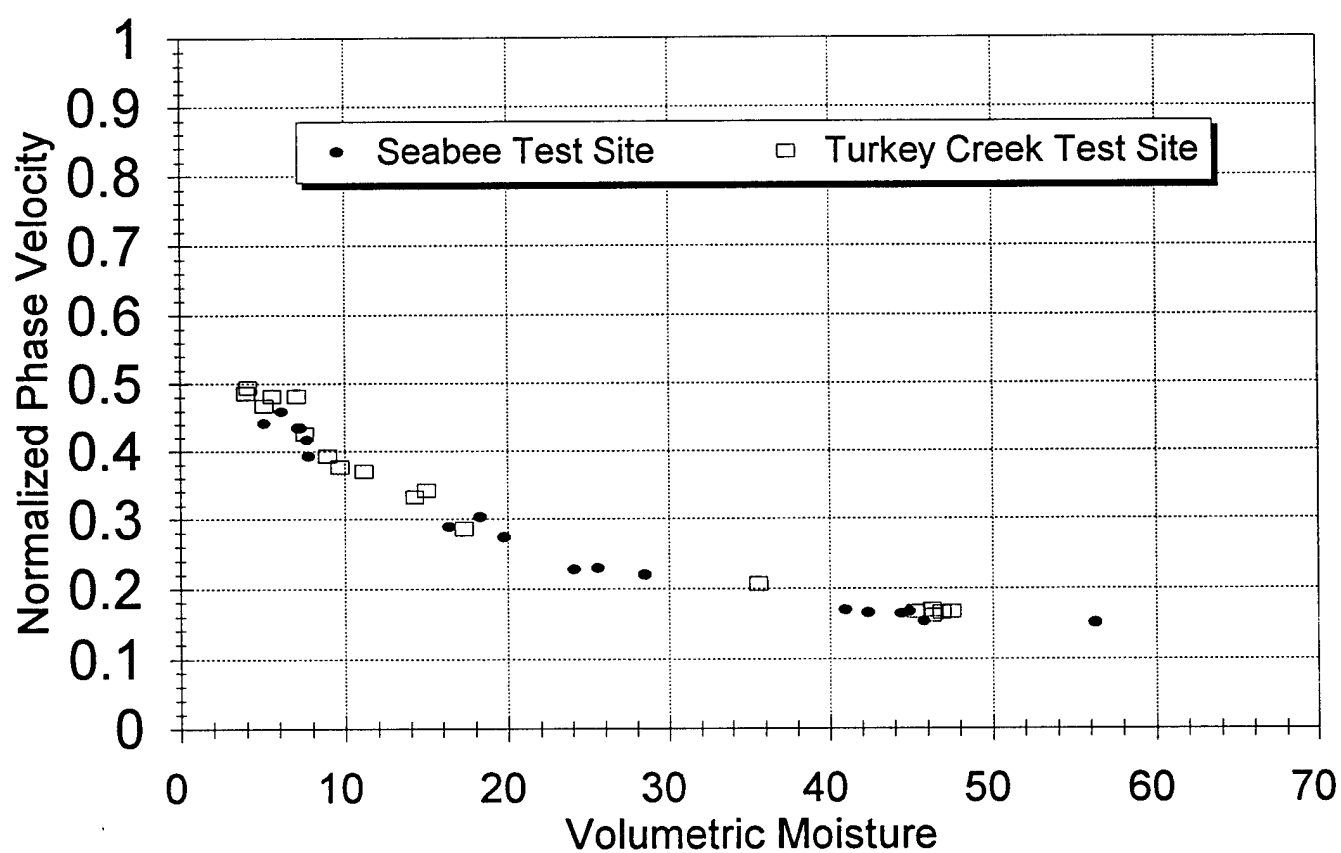
### Properties at 50 MHz





## Fort Carson\_2

### Properties at 50 MHz



Fort Carson\_2  
Properties at 100 Mhz

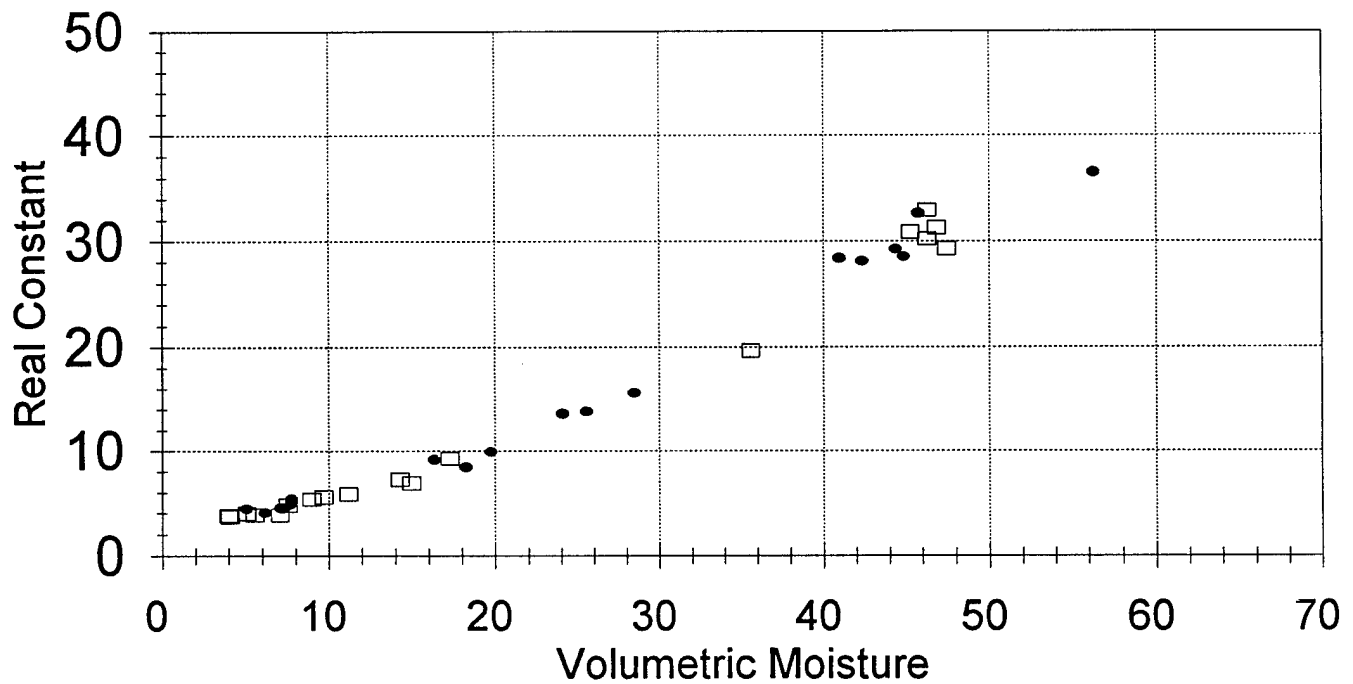
# Fort Carson\_2 Soil Properties at 100 MHz

Vol. Moisture - %	Re(Dielectric)	Im(Dielectric)	Cond. - mho/m	Loss Tangent	Attn. - dB/m	Norm. Velocity	
18.3	8.4469	4.4106	0.0245	0.5222	13.3817	0.3336	
6.2	4.0916	1.2214	0.0068	0.2985	5.4335	0.4891	Seabee, 40E, 23N, 1.18 g/cc
56.3	36.5558	15.3696	0.0855	0.4204	22.647	0.162	
19.8	9.9143	6.3218	0.0352	0.6376	17.468	0.3038	
7.2	4.5439	1.5852	0.0088	0.3489	6.6662	0.4623	Seabee, 40E, 23N, 1.31 g/cc
44.4	29.3114	15.6263	0.0869	0.5331	25.4201	0.1788	
28.5	15.6491	9.3956	0.0522	0.6004	20.7571	0.2429	
7.3	4.5621	1.5641	0.0087	0.3428	6.5677	0.4616	Seabee, 65E, 10.5N, 1.35 g/cc
44.9	28.5506	14.5622	0.081	0.51	24.0628	0.1817	
25.6	13.8028	9.0934	0.0506	0.6588	21.2391	0.2568	
7.7	4.8907	1.8143	0.0101	0.371	7.3409	0.4448	Seabee, 52.5E, 85.5N, 1.38 g/cc
42.4	28.1438	15.8153	0.0879	0.5619	26.171	0.1819	
16.4	9.1789	5.1237	0.0285	0.5582	14.8529	0.3187	
5.1	4.4373	1.3277	0.0074	0.2992	5.6714	0.4696	Seabee, 27.5E, 73N, 1.28 g/cc
41	28.398	13.3592	0.0743	0.4704	22.2257	0.1829	
24.1	13.6044	9.8363	0.0547	0.723	22.9514	0.2565	
7.8	5.367	1.9939	0.0111	0.3703	7.6894	0.424	Seabee, 77.5E, 60.5N, 1.33 g/cc
45.8	32.6	19.6327	0.1092	0.6009	30.0167	0.1681	
14.3	7.2	3.5258	0.0196	0.4838	11.5637	0.3606	
5.1	4.0	1.0395	0.0058	0.2564	4.6583	0.4927	Turkey Creek, 77.5E, 60.5N, 1.28 g/cc
45.3	30.9	11.7082	0.0651	0.3787	18.8298	0.1768	
17.3	9.3100	5.5438	0.0308	0.5952	15.8851	0.315	
7.6	4.8	1.5315	0.0085	0.3179	6.2698	0.4501	Turkey Creek, 77.5E, 60.5N, 1.40 g/cc
47.5	29.320	13.4072	0.0746	0.4572	21.9784	0.1802	

9	5.3816	1.9292	0.0107	0.3585	7.4489	0.4245	Turkey Creek, 65E, 10.5N, 1.3 g/cc
4.1	3.7122	0.8045	0.0045	0.2167	3.7761	0.516	
46.3	30.2812	9.8688	0.0549	0.3259	16.1055	0.1794	
15	6.9178	3.0409	0.0169	0.4396	10.2815	0.3717	Turkey Creek, 52.5E, 85.5N, 1.33 g/cc
7.1	3.8918	1.0038	0.0056	0.2579	4.5907	0.5028	
35.6	19.6555	7.696	0.0428	0.3915	15.5055	0.2215	
9.7	5.5901	3.4397	0.0191	0.6153	12.6919	0.4057	Turkey Creek, 27.5E, 73N, 1.32 g/cc
4	3.8169	0.8848	0.0049	0.2318	4.0924	0.5085	
46.3	33.0038	12.1827	0.0677	0.3691	18.9783	0.1713	
11.2	5.9179	2.6978	0.015	0.4559	9.8466	0.4013	Turkey Creek, 40E, 23N, 1.36 g/cc
5.6	3.8641	1.0151	0.0056	0.2627	4.6575	0.5045	
46.9	31.3047	11.4793	0.0638	0.3667	18.3652	0.1759	

## Fort Carson\_2

### Properties at 100 MHz

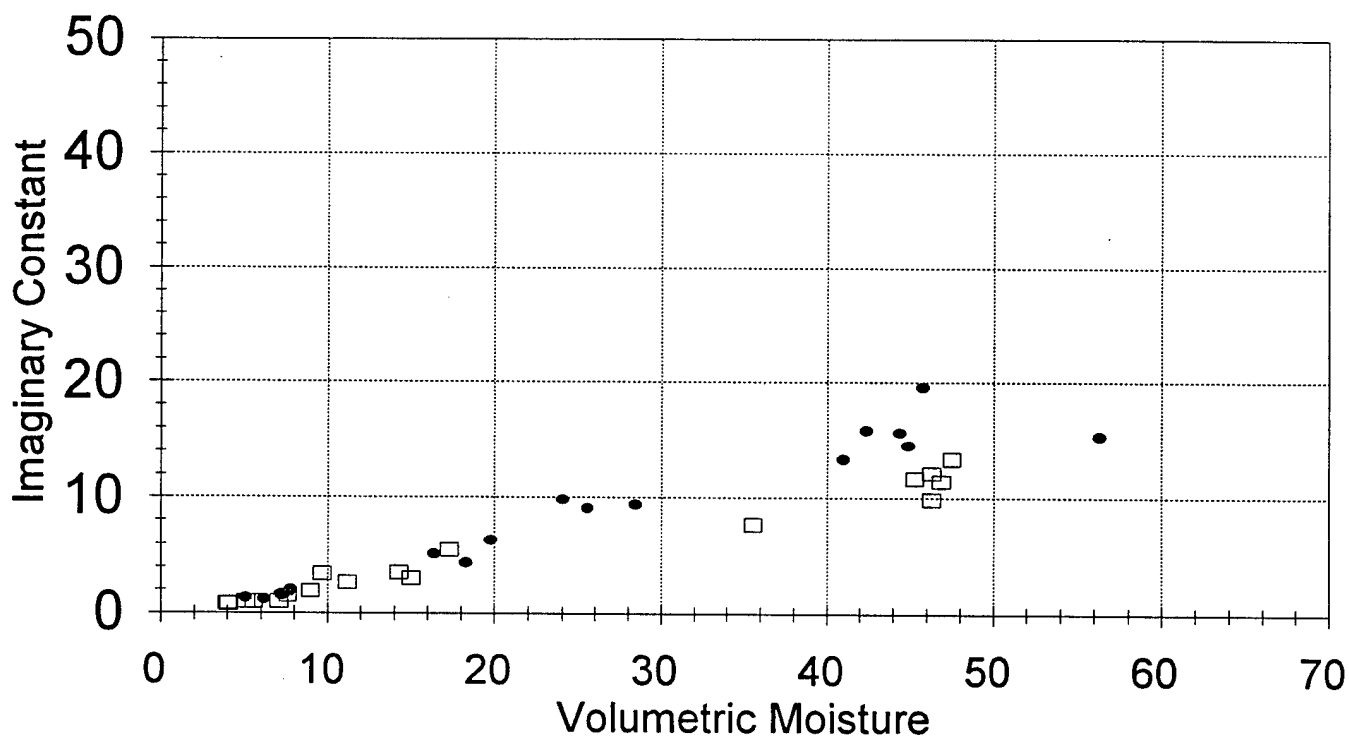


• Seabee Test Site

□ Turkey Creek Test Site

## Fort Carson\_2

### Properties at 100 MHz

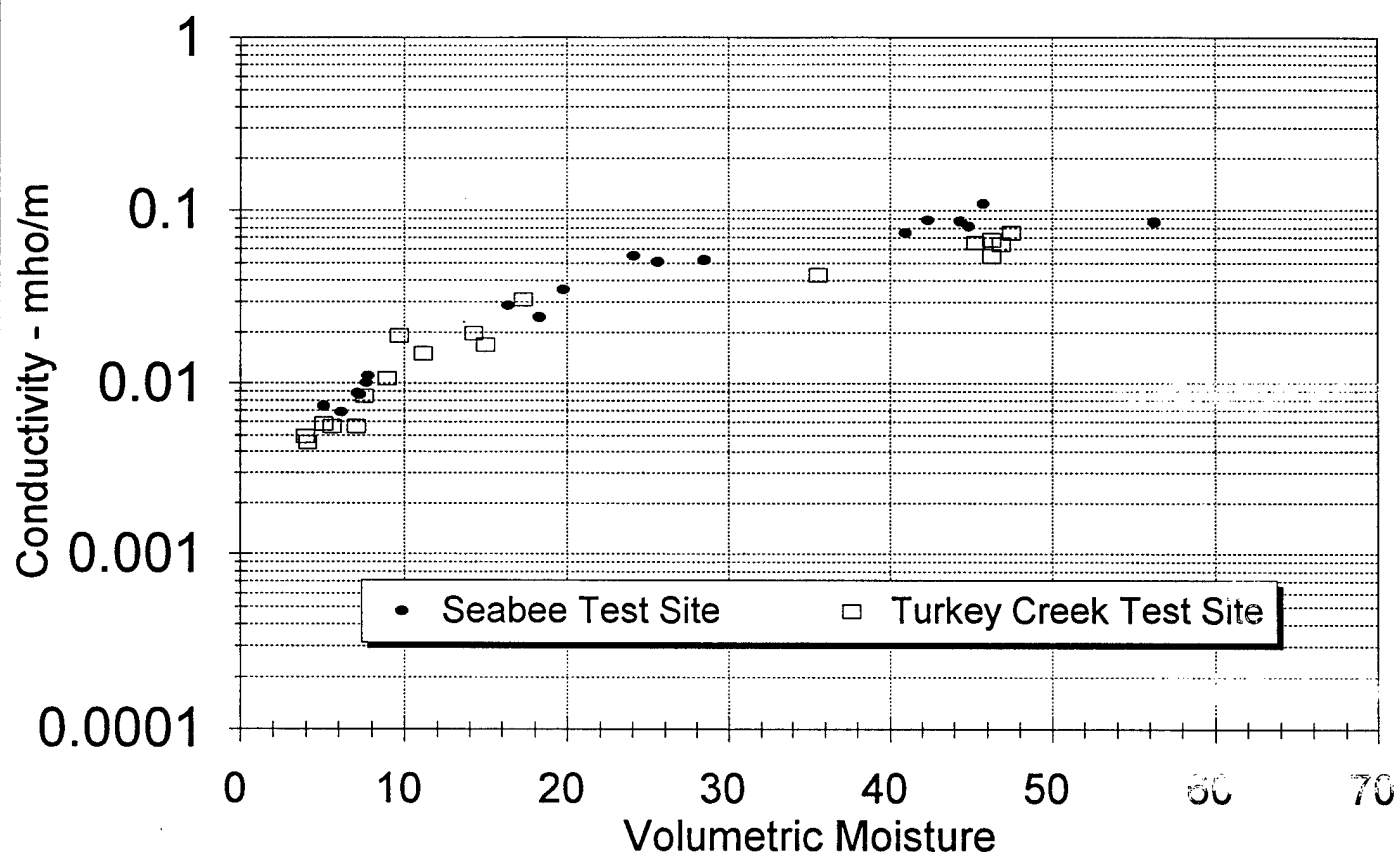


• Seabee Test Site

□ Turkey Creek Test Site

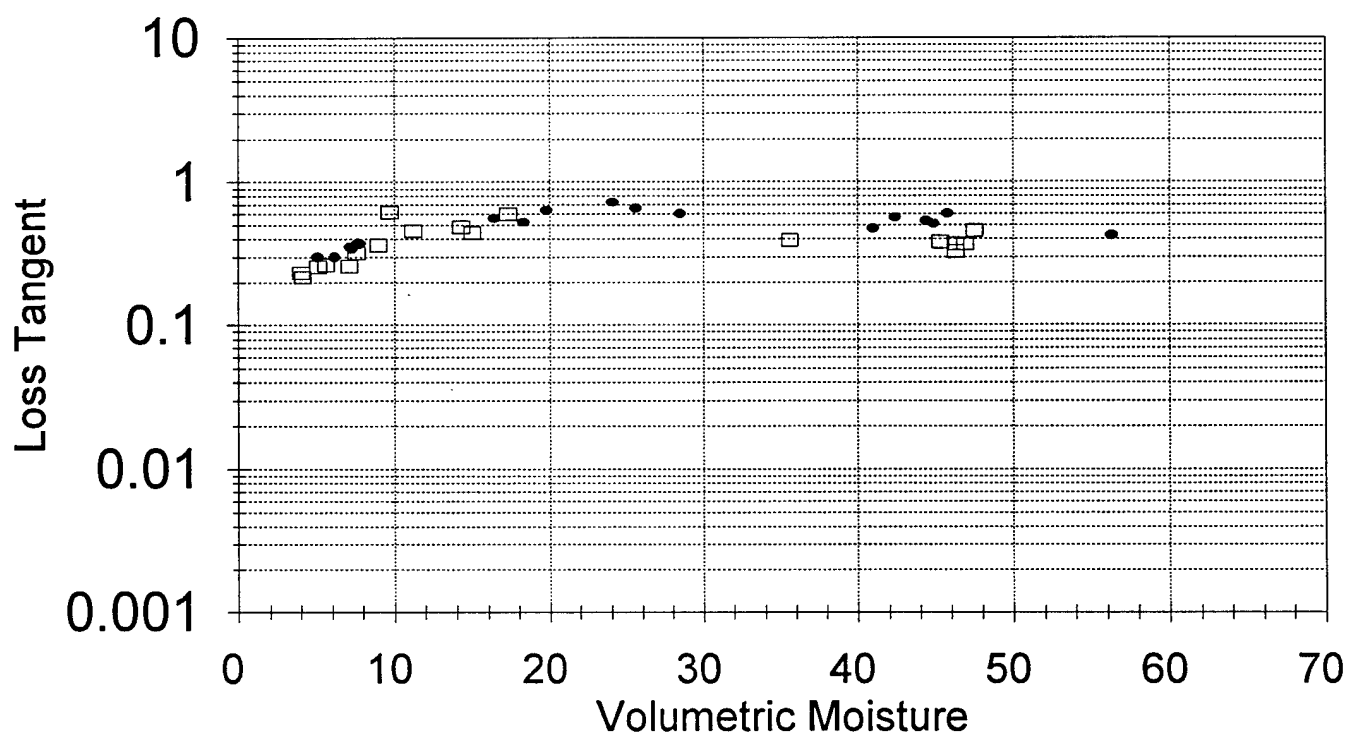
## Fort Carson\_2

### Properties at 100 MHz



## Fort Carson\_2

### Properties at 100 MHz



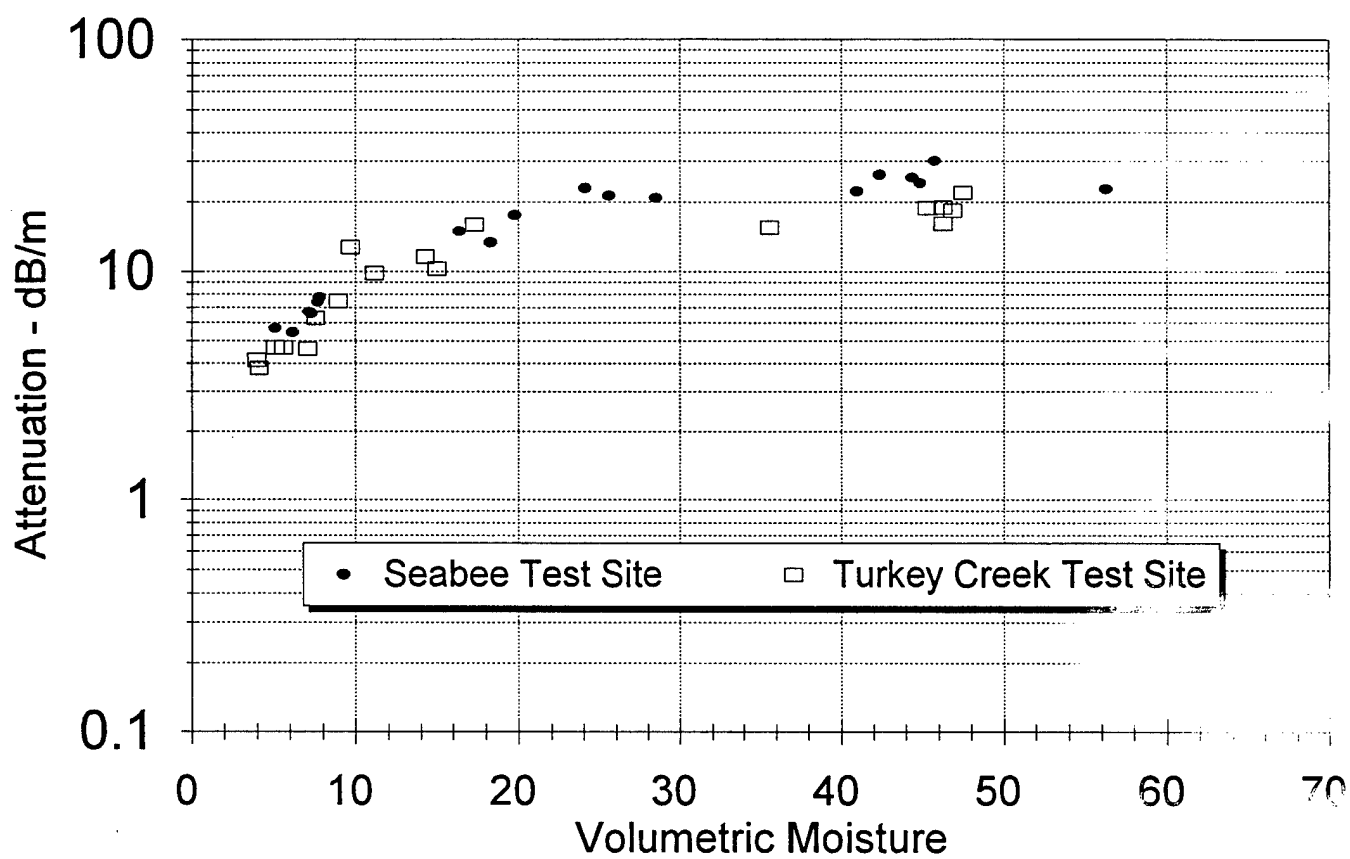
• Seabee Test Site

□ Turkey Creek Test Site



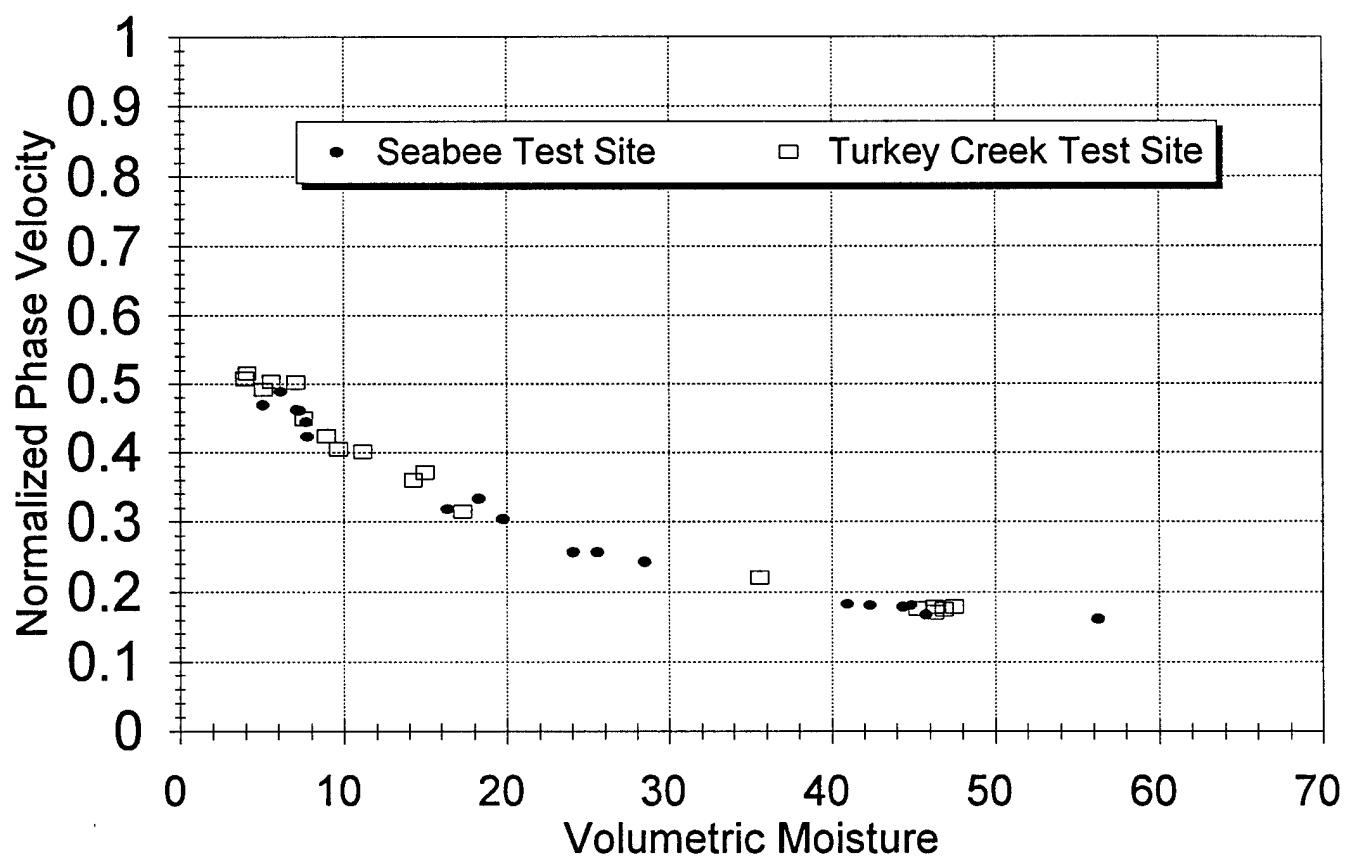
## Fort Carson\_2

### Properties at 100 MHz



## Fort Carson\_2

### Properties at 100 MHz



Fort Carson\_2  
Properties at 200 Mhz

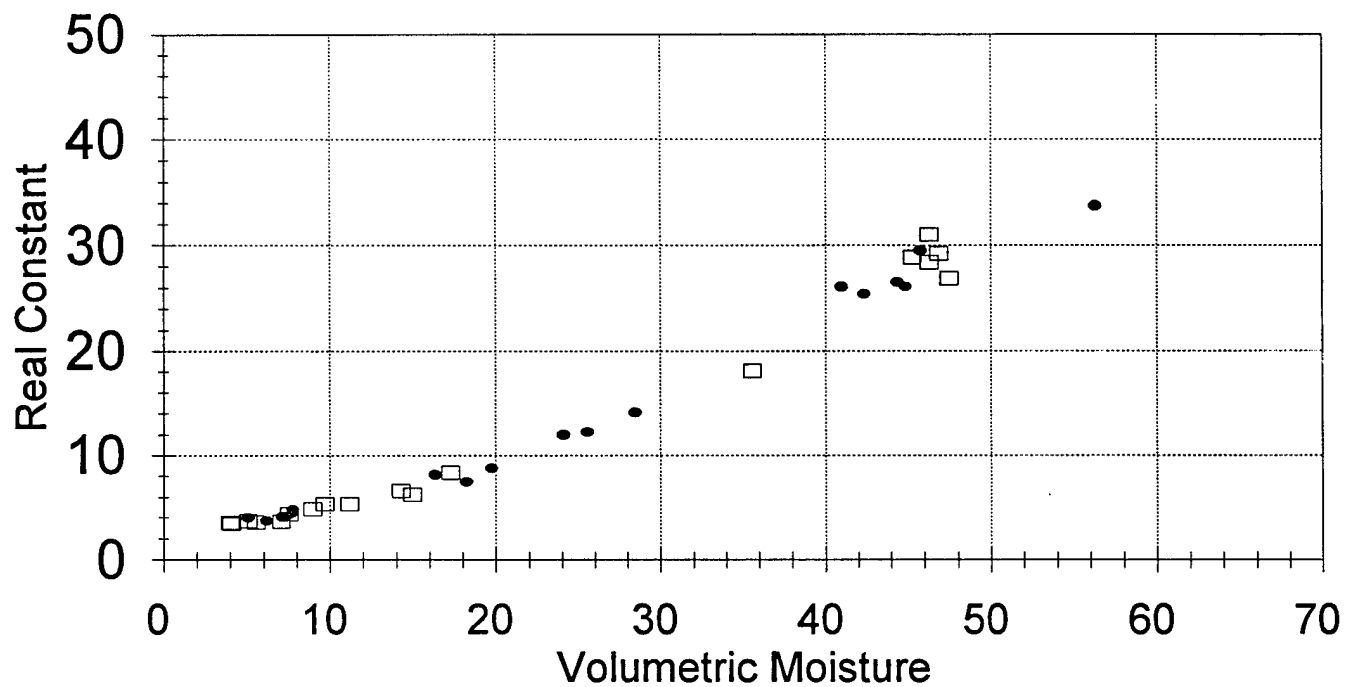
# Fort Carson\_2 Soil Properties at 200 MHz

Vol. Moisture - %	Re(Dielectric)	Im(Dielectric)	Cond. - mho/m	Loss Tangent	Attn. - dB/m	Norm. Velocity	
18.3	7.4974	2.8515	0.0317	0.3803	18.6222	0.359	
6.2	3.7175	0.8628	0.0096	0.2321	8.0873	0.5152	Seabee, 40E, 23N, 1.18 g/cc
56.3	33.7794	9.5891	0.1066	0.2839	29.7219	0.1704	
19.8	8.7992	3.9516	0.0439	0.4491	23.671	0.3293	
7.2	4.147	1.0864	0.0121	0.262	9.6238	0.487	Seabee, 40E, 23N, 1.31 g/cc
44.4	26.6026	9.673	0.1076	0.3636	33.5834	0.1909	
28.5	14.1503	5.7291	0.0637	0.4049	27.1756	0.2607	
7.3	4.1517	1.0922	0.0121	0.2631	9.6691	0.4867	Seabee, 65E, 10.5N, 1.35 g/cc
44.9	26.1876	9.0511	0.1007	0.3456	31.7187	0.1926	
25.6	12.2903	5.547	0.0617	0.4513	28.1095	0.2786	
7.7	4.4528	1.2529	0.0139	0.2814	10.6976	0.4694	Seabee, 52.5E, 85.5N, 1.38 g/cc
42.4	25.4445	9.7833	0.1088	0.3845	34.6695	0.1948	
16.4	8.1765	3.2398	0.036	0.3962	20.2321	0.3433	
5.1	4.0589	0.9286	0.0103	0.2288	8.3317	0.4932	Seabee, 27.5E, 73N, 1.28 g/cc
41	26.1239	8.5461	0.095	0.3271	30.0284	0.1931	
24.1	11.9826	6.0649	0.0674	0.5061	30.9518	0.2805	
7.8	4.8301	1.3914	0.0155	0.2881	11.4016	0.4505	Seabee, 77.5E, 60.5N, 1.33 g/cc
45.8	29.5348	12.1695	0.1353	0.412	39.9301	0.1804	
14.3	6.6301	2.2511	0.025	0.3395	15.6857	0.383	
5.1	3.7465	0.747	0.0083	0.1994	6.986	0.5141	Turkey Creek, 77.5E, 60.5N, 1.28 g/cc
45.3	28.9319	7.9127	0.0847	0.2631	25.5305	0.1844	
17.3	8.3507	3.4913	0.0388	0.4181	21.5315	0.339	
7.6	4.425	1.071	0.0119	0.242	9.1958	0.472	Turkey Creek, 77.5E, 60.5N, 1.40 g/cc
47.5	26.9528	8.3052	0.0924	0.3081	28.77	0.1904	

9	4.8809	1.3043	0.0145	0.2672	10.647	0.4487	Turkey Creek, 65E, 10.5N, 1.3 g/cc
4.1	3.4756	0.5764	0.0064	0.1659	5.6058	0.5346	
46.3	28.4809	6.4433	0.0717	0.2262	21.8263	0.1862	
15	6.2625	1.9719	0.0219	0.3149	14.1644	0.3949	Turkey Creek, 52.5E, 85.5N, 1.33 g/cc
7.1	3.6478	0.7082	0.0079	0.1941	6.7142	0.5212	
35.6	18.1249	4.9066	0.0546	0.2707	20.7799	0.2328	
9.7	5.3368	2.0308	0.0226	0.3805	15.719	0.4255	Turkey Creek, 27.5E, 73N, 1.32 g/cc
4	3.5629	0.6277	0.007	0.1762	6.0266	0.5278	
46.3	31.0804	7.5838	0.0843	0.244	24.5672	0.1781	
11.2	5.3347	1.7787	0.0198	0.3334	13.824	0.4272	Turkey Creek, 40E, 23N, 1.36 g/cc
5.6	3.5945	0.719	0.008	0.2	6.8648	0.5249	
46.9	29.2945	7.5087	0.0835	0.2563	25.0358	0.1833	

## Fort Carson\_2

### Properties at 200 MHz

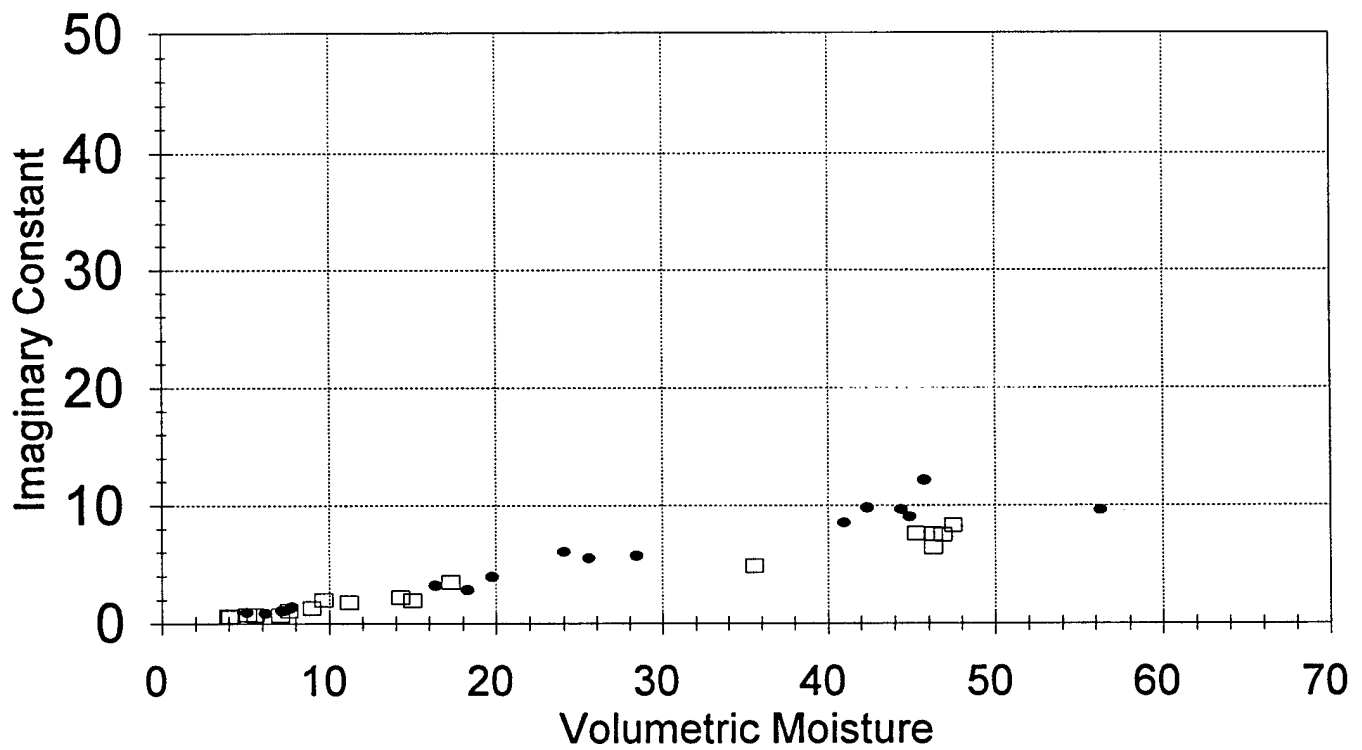


• Seabee Test Site

□ Turkey Creek Test Site

## Fort Carson\_2

### Properties at 200 MHz

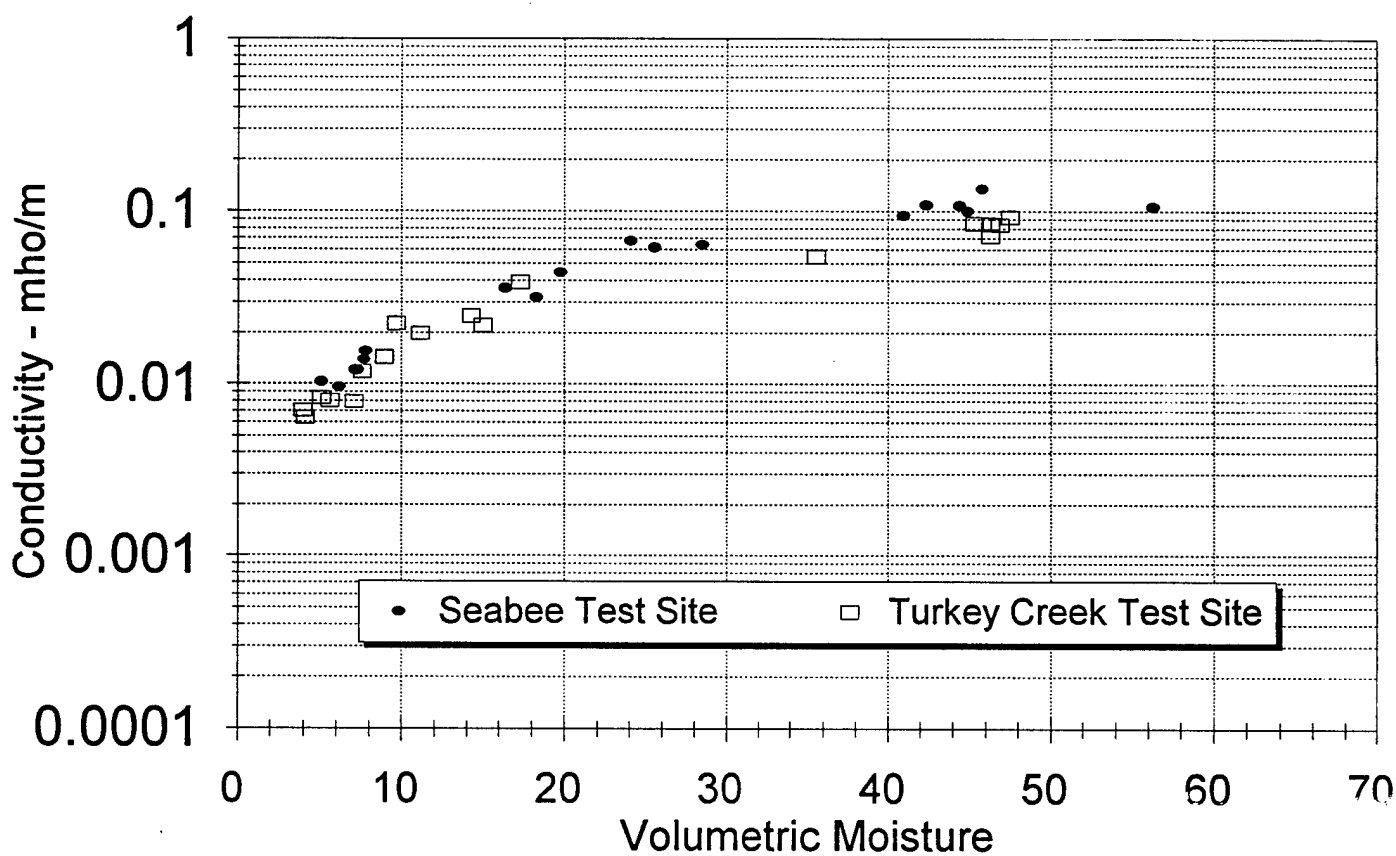


• Seabee Test Site

□ Turkey Creek Test Site

## Fort Carson\_2

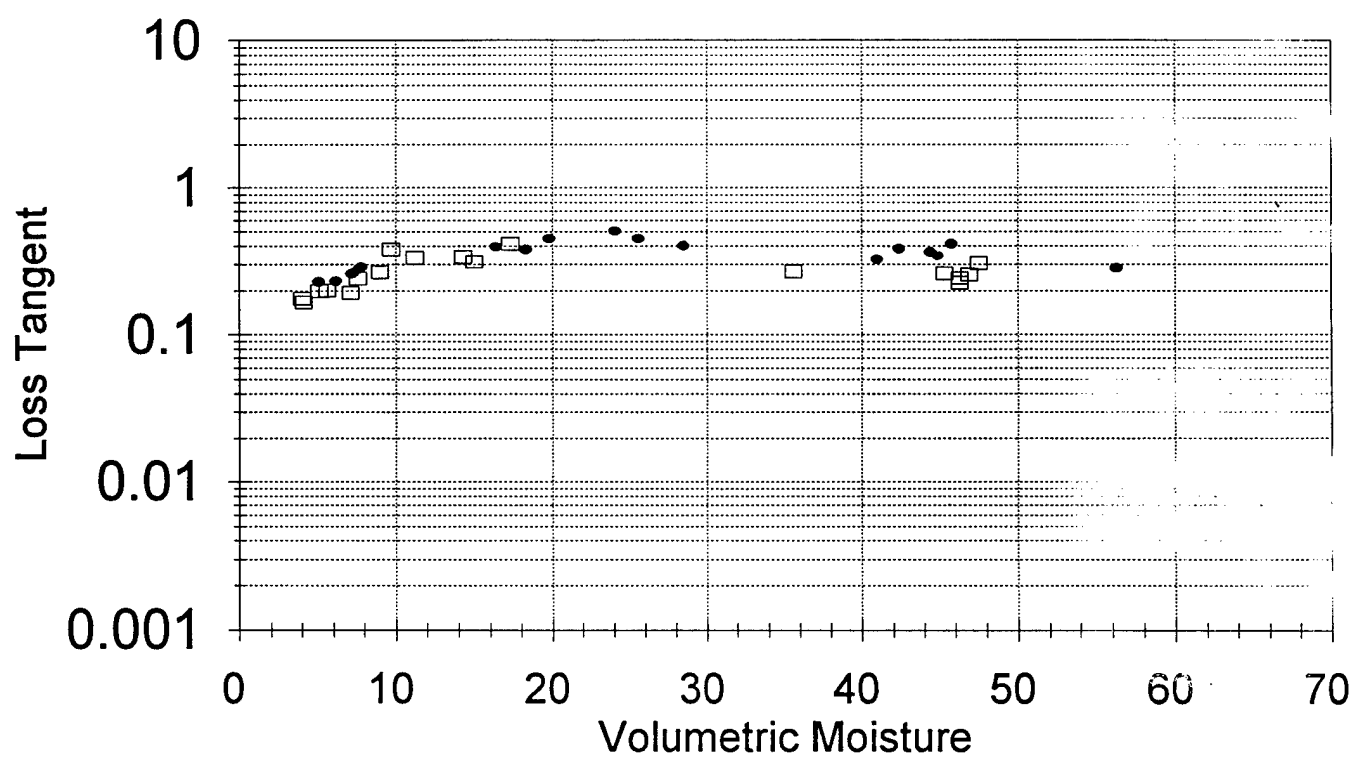
### Properties at 200 MHz





## Fort Carson\_2

### Properties at 200 MHz

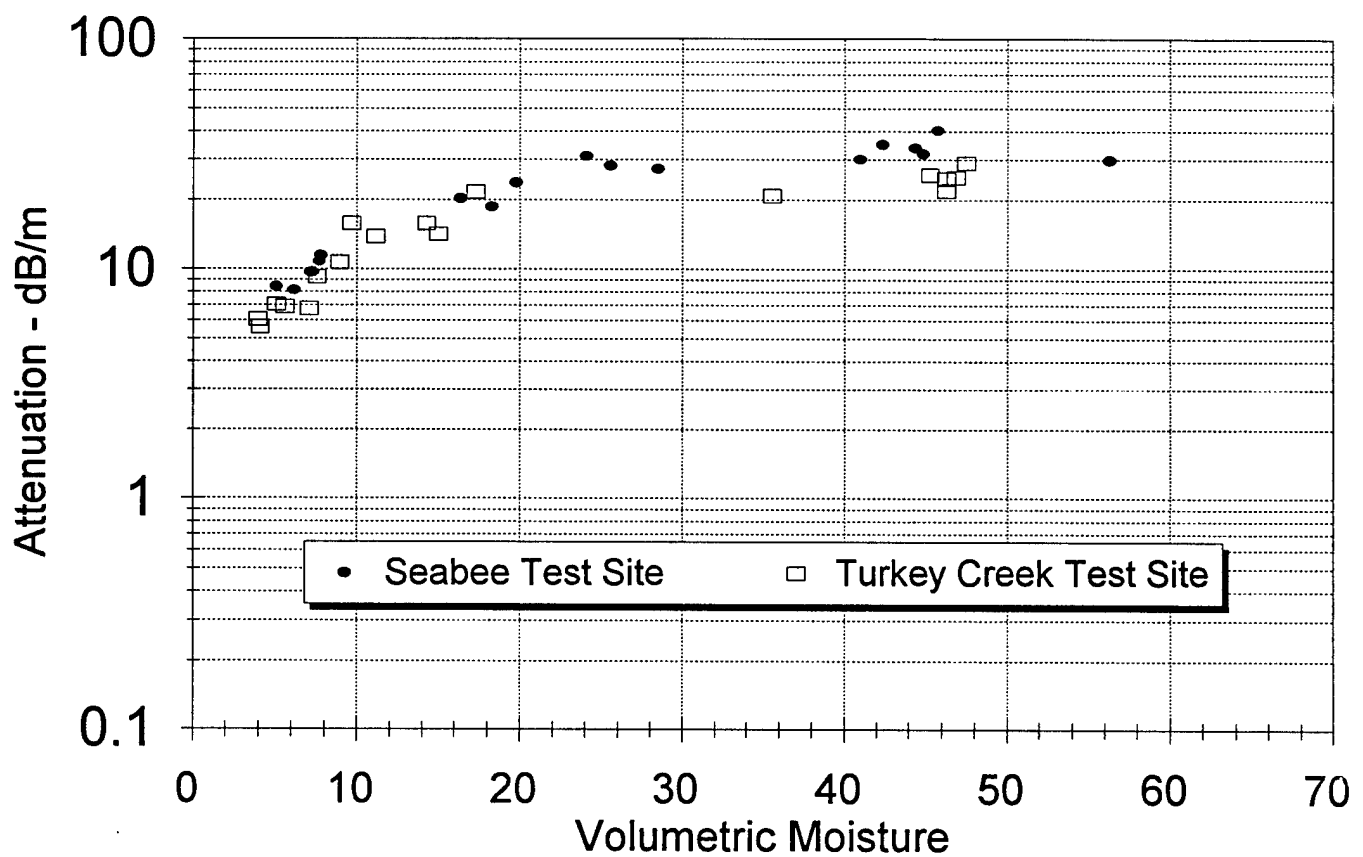


• Seabee Test Site

□ Turkey Creek Test Site

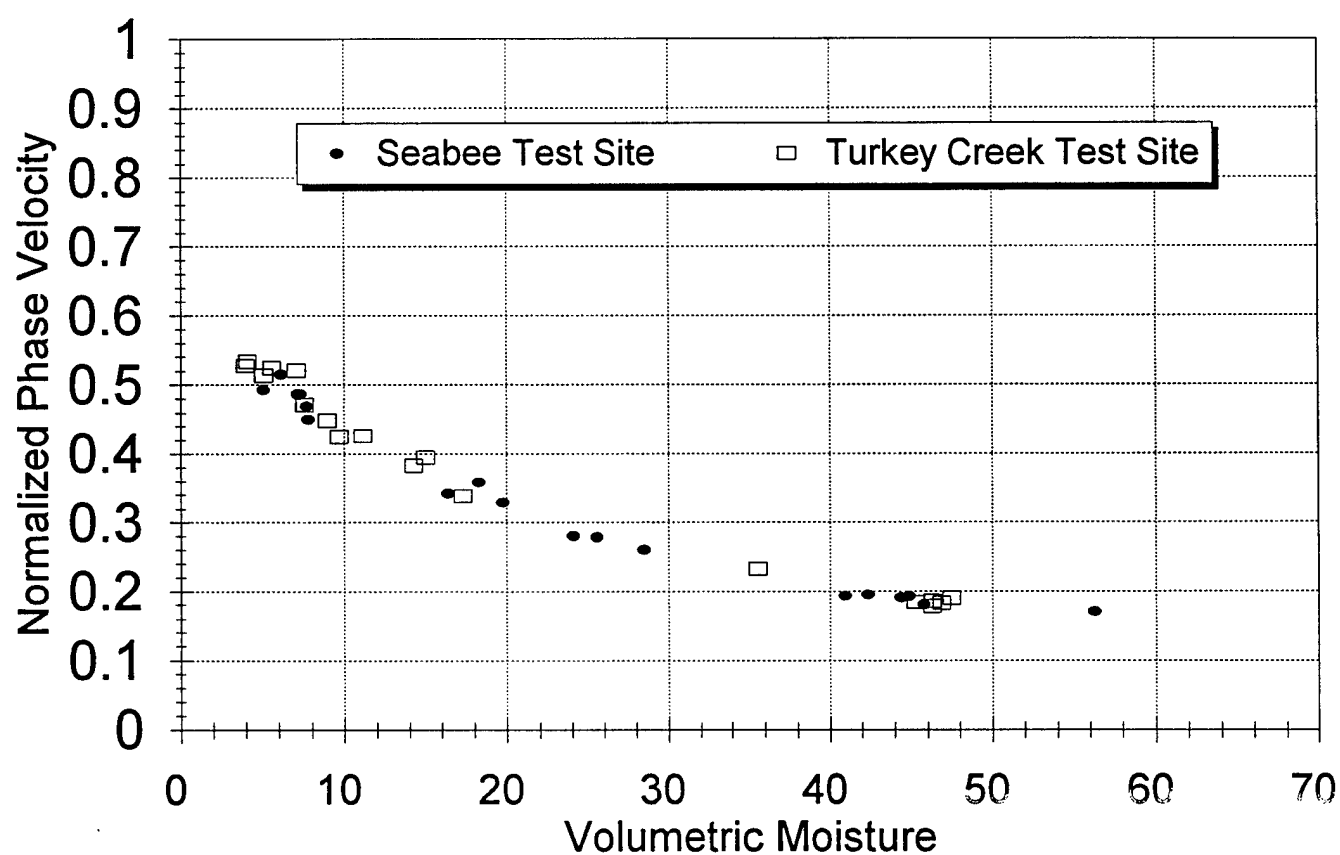
## Fort Carson\_2

### Properties at 200 MHz



## Fort Carson\_2

### Properties at 200 MHz



Fort Carson\_2  
Properties at 895 Mhz

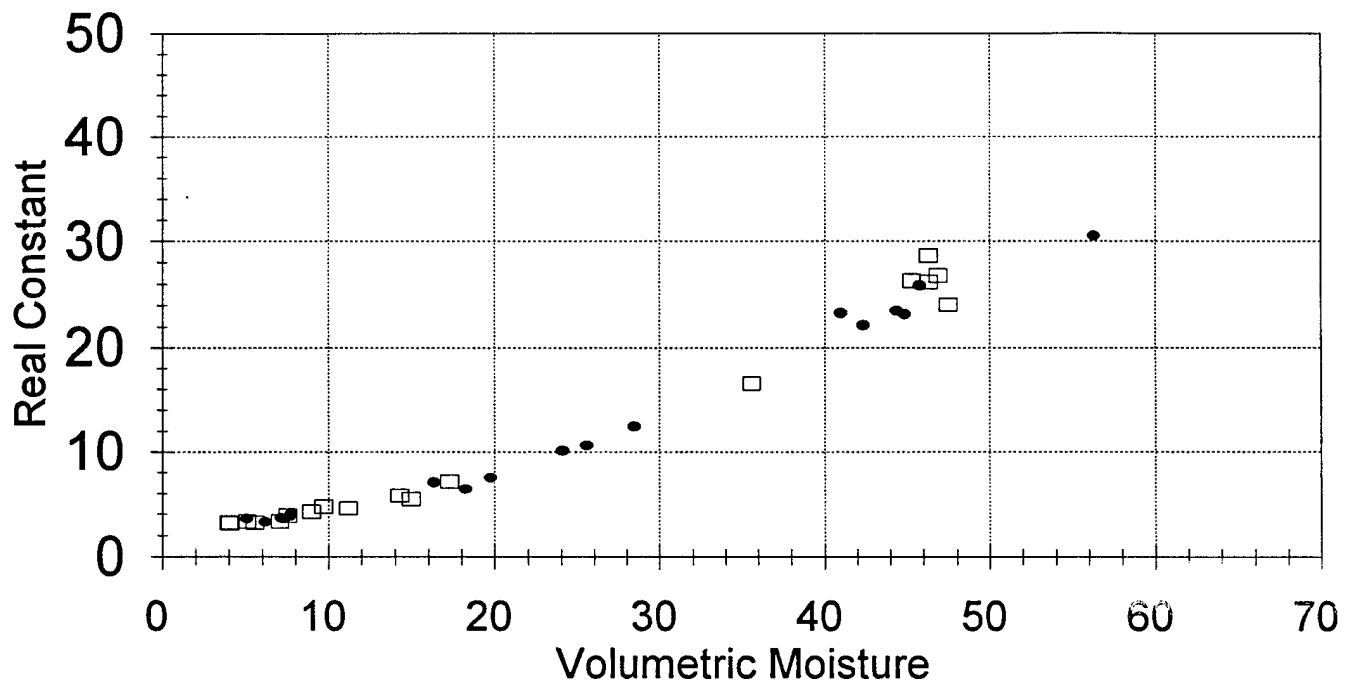
# Fort Carson\_2 Soil Properties at 895 MHz

Vol. Moisture - %	Re(Dielectric)	Im(Dielectric)	Cond. - mho/m	Loss Tangent	Attn. - dB/m	Norm. Velocity	
18.3	6.4346	1.1504	0.0573	0.1788	36.7748	0.3927	
6.2	3.309	0.3978	0.0198	0.1202	17.7695	0.5487	Seabee, 40E, 23N, 1.18 g/cc
56.3	30.5502	4.3716	0.2176	0.1431	64.2239	0.1805	
19.8	7.5094	1.5544	0.0774	0.207	45.9356	0.363	
7.2	3.6713	0.5124	0.0255	0.1396	21.7183	0.5206	Seabee, 40E, 23N, 1.31 g/cc
44.4	23.494	4.0823	0.2032	0.1738	68.3086	0.2055	
28.5	12.4709	2.2697	0.113	0.182	52.1093	0.282	
7.3	3.6397	0.4873	0.0243	0.1339	20.7465	0.523	Seabee, 65E, 10.5N, 1.35 g/cc
44.9	23.2105	3.8799	0.1931	0.1672	65.3348	0.2069	
25.6	10.673	2.1354	0.1063	0.2001	52.9493	0.3046	
7.7	3.8857	0.5485	0.0273	0.1412	22.5967	0.506	Seabee, 52.5E, 85.5N, 1.38 g/cc
42.4	22.1686	4.097	0.2039	0.1848	70.5398	0.2115	
16.4	7.0363	1.2847	0.0639	0.1826	39.2662	0.3754	
5.1	3.5993	0.4423	0.022	0.1229	18.9434	0.5261	Seabee, 27.5E, 73N, 1.28 g/cc
41	23.3161	3.6195	0.1801	0.1552	60.8395	0.2065	
24.1	10.1057	2.261	0.1125	0.2237	57.5458	0.3126	
7.8	4.1388	0.6445	0.0321	0.1557	25.7122	0.4901	Seabee, 77.5E, 60.5N, 1.33 g/cc
45.8	25.8939	4.9705	0.2474	0.192	79.1578	0.1956	
14.3	5.8027	0.9142	0.0455	0.1576	30.8017	0.4139	
5.1	3.5186	0.3555	0.0178	0.1071	15.9252	0.5457	Turkey Creek, 77.5E, 60.5N, 1.28 g/cc
45.3	26.3156	3.611	0.1804	0.1378	57.3957	0.1945	
17.3	7.1532	1.3814	0.0689	0.1927	41.8492	0.3714	
7.6	3.9193	0.4419	0.0248	0.1273	20.4774	0.5041	Turkey Creek, 77.5E, 60.5N, 1.40 g/cc
47.5	24.0668	3.711	0.188	0.1568	62.4621	0.2031	

9	4.3118	0.5578	0.0278	0.1294	21.8248	0.4806	Turkey Creek, 65E, 10.5N, 1.3 g/cc
4.1	3.185	0.2857	0.0142	0.0897	13.0199	0.5598	
46.3	26.2451	3.2245	0.1605	0.1229	51.1435	0.1948	
15	5.5112	0.8523	0.0424	0.1546	29.4668	0.4247	Turkey Creek, 52.5E, 85.5N, 1.33 g/cc
7.1	3.3349	0.3548	0.0177	0.1064	15.7942	0.5468	
35.6	16.5773	2.2496	0.112	0.1357	44.876	0.245	
9.7	4.7432	0.7365	0.0367	0.1553	27.446	0.4578	Turkey Creek, 27.5E, 73N, 1.32 g/cc
4	3.2486	0.3114	0.0155	0.0958	14.0467	0.5542	
46.3	28.6823	3.9261	0.1954	0.1369	59.5401	0.1863	
11.2	4.6036	0.7301	0.0363	0.1586	27.6153	0.4646	Turkey Creek, 40E, 23N, 1.36 g/cc
5.6	3.2343	0.3406	0.0169	0.1053	15.3946	0.5553	
46.9	26.8232	3.6427	0.1813	0.1358	57.1261	0.1926	

## Fort Carson\_2

### Properties at 895 MHz

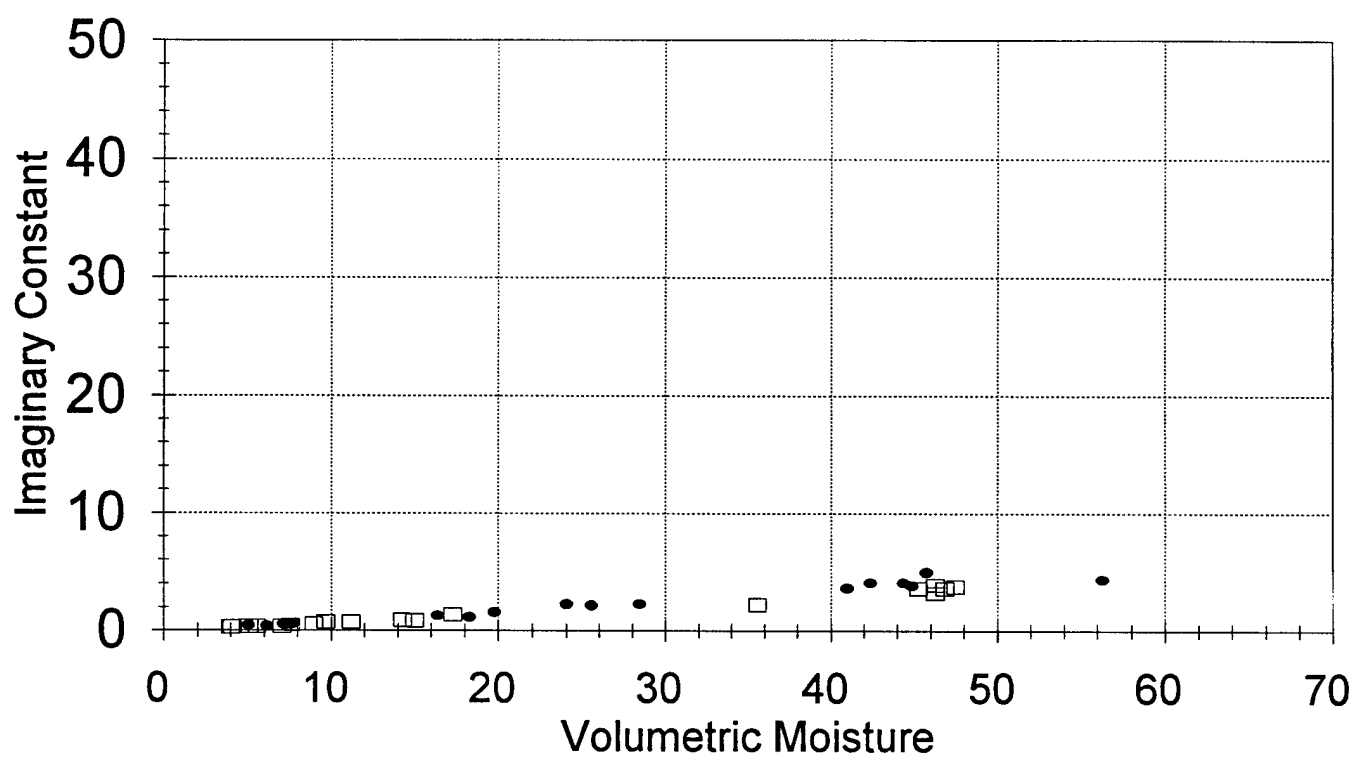


• Seabee Test Site

□ Turkey Creek Test Site

## Fort Carson\_2

### Properties at 895 MHz



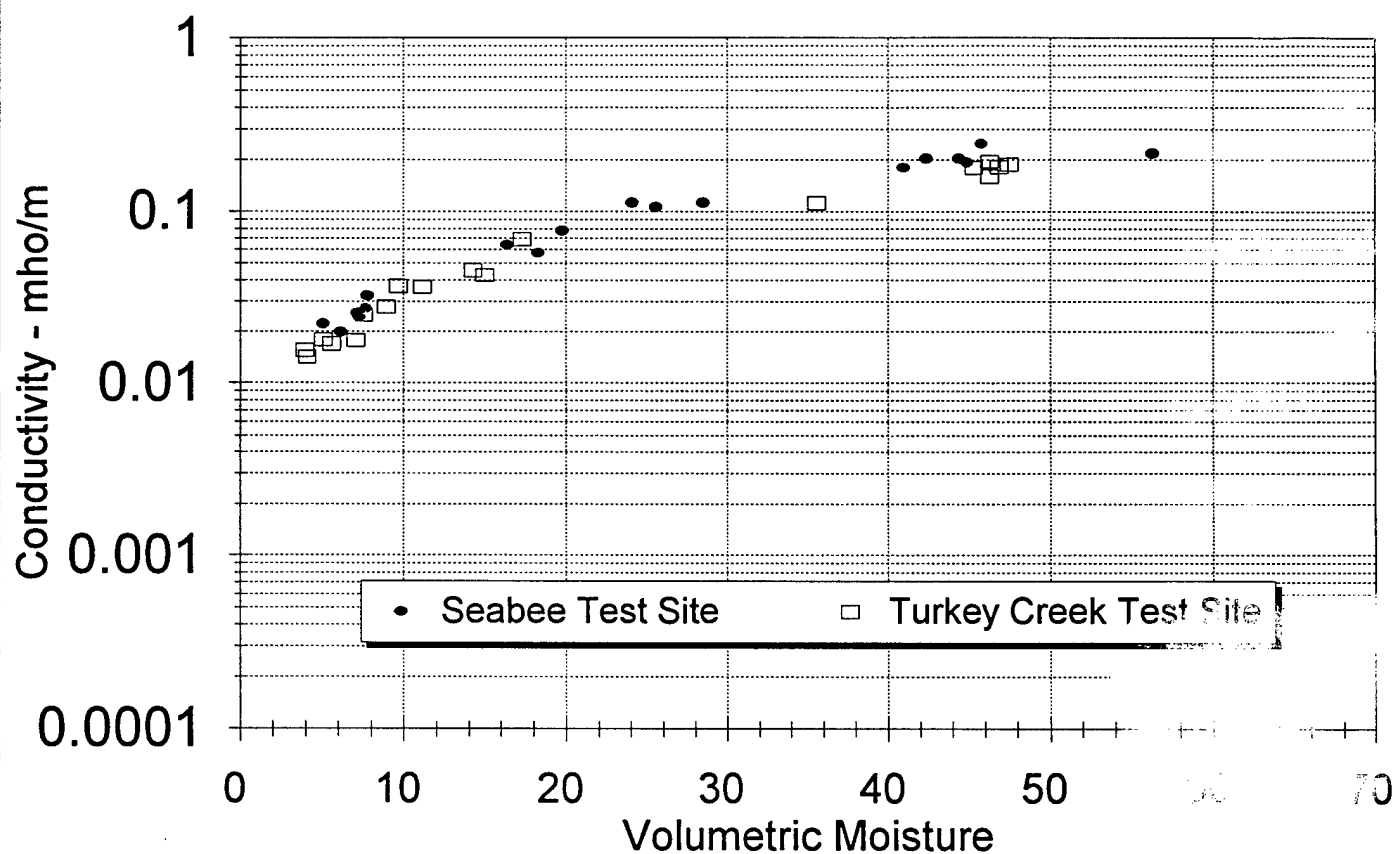
• Seabee Test Site

□ Turkey Creek Test Site



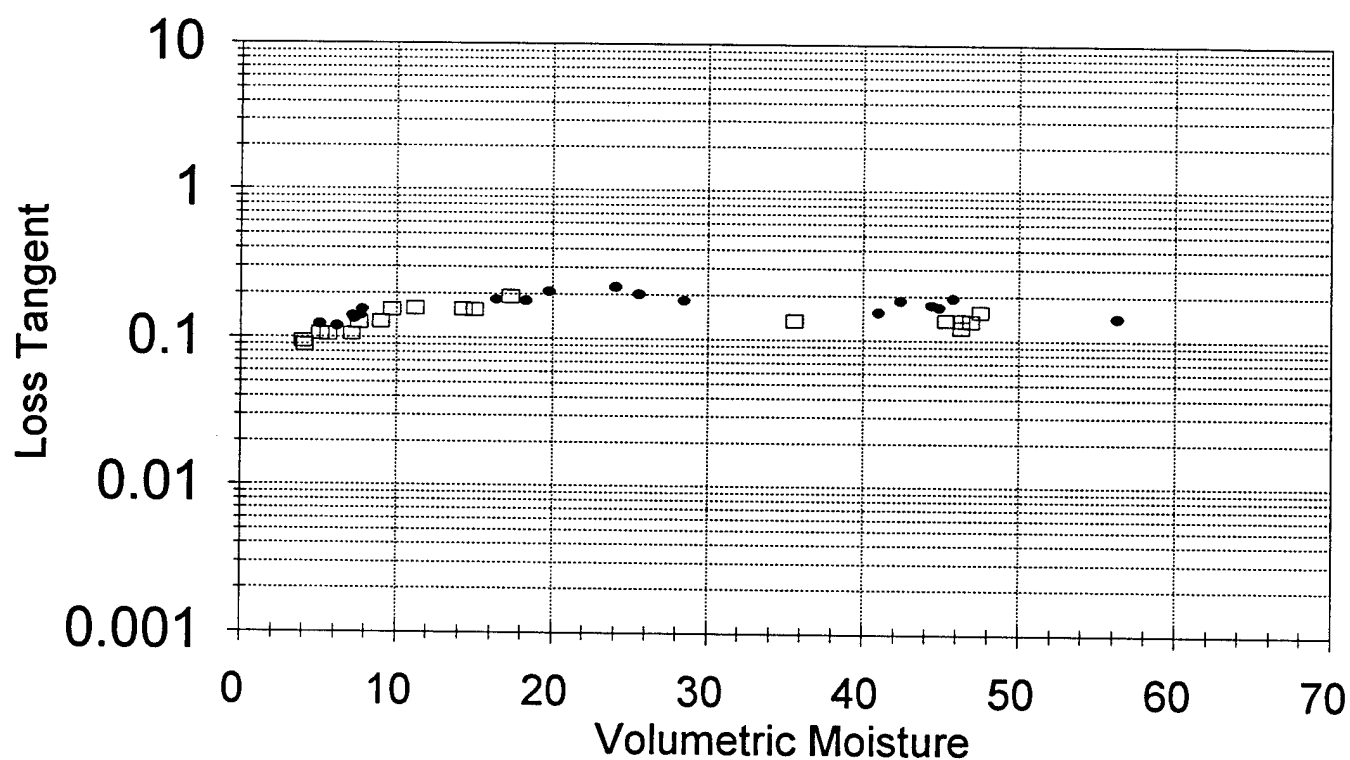
## Fort Carson\_2

### Properties at 895 MHz



## Fort Carson\_2

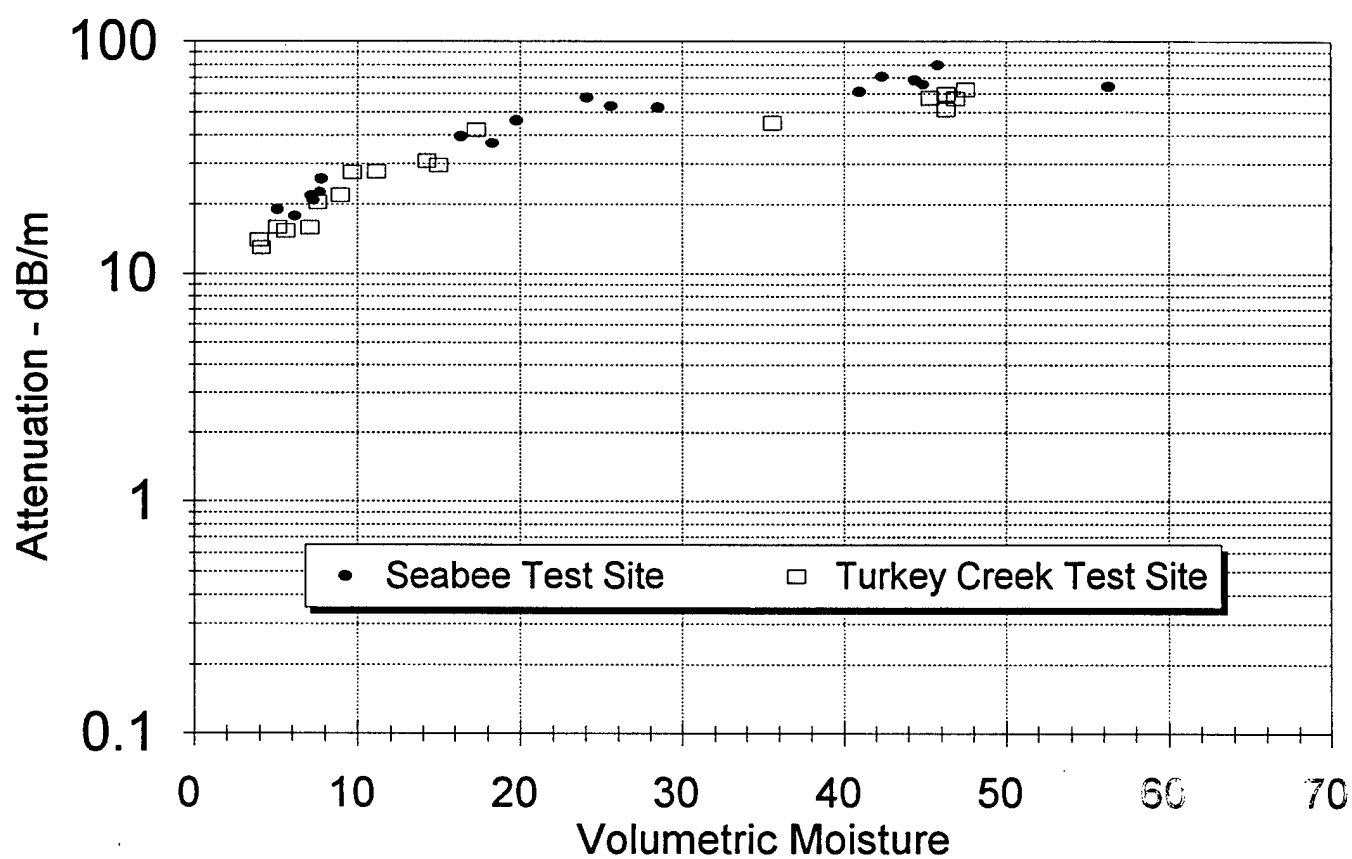
### Properties at 895 MHz



• Seabee Test Site

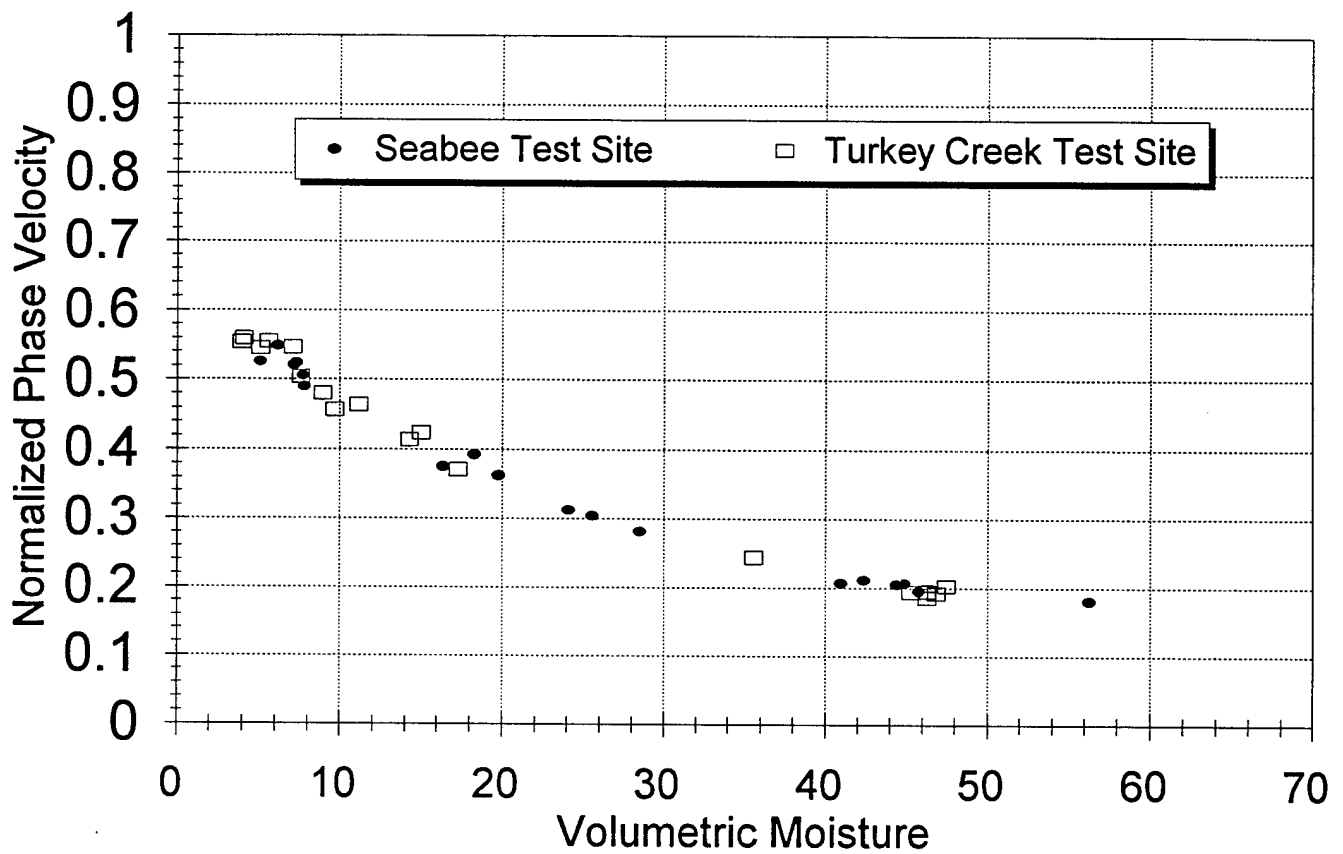
□ Turkey Creek Test Site

## Fort Carson\_2 Properties at 895 MHz



## Fort Carson\_2

### Properties at 895 MHz



Fort Carson\_2  
Individual Sample Results

3SP61509  
SB40E23N

9.7

2

SB40E23N , File: 3SP61509

18.3

20 deg C, Mv = 18.3%, 1.180 g/cc (dry)

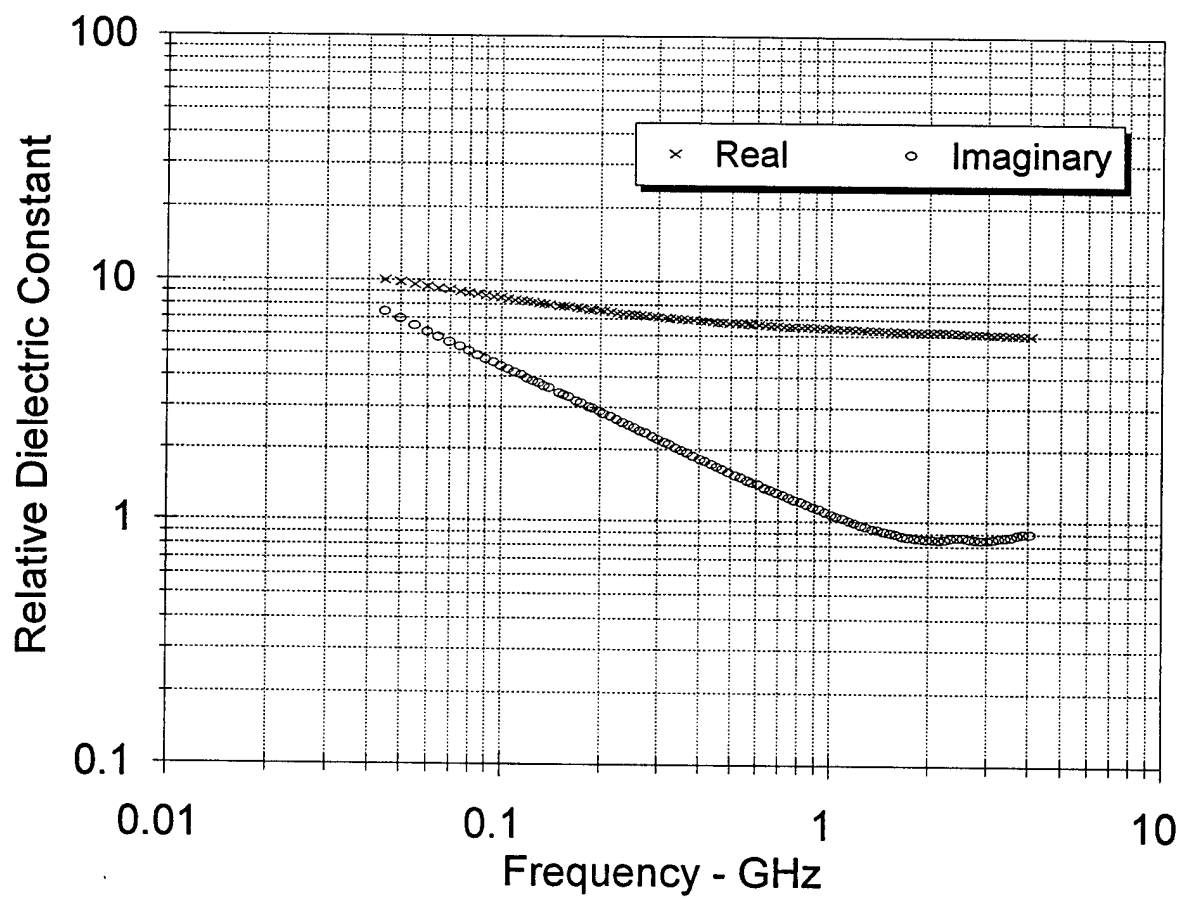
20

1.18

0.045	9.9955	7.4039	0.0185	0.7407	9.0484	0.2986
0.05	9.7714	6.8991	0.0192	0.706	9.5183	0.3034
0.055	9.5599	6.4763	0.0198	0.6774	9.9732	0.3078
0.06	9.3959	6.1077	0.0204	0.65	10.3856	0.3116
0.065	9.2258	5.8131	0.021	0.6301	10.8331	0.3152
0.07	9.083	5.5405	0.0216	0.61	11.2338	0.3184
0.075	8.951	5.3023	0.0221	0.5924	11.6275	0.3215
0.08	8.8383	5.0865	0.0226	0.5755	11.9973	0.3241
0.085	8.7233	4.8873	0.0231	0.5603	12.3498	0.3268
0.09	8.6236	4.7152	0.0236	0.5468	12.7081	0.3292
0.095	8.5317	4.5532	0.0241	0.5337	13.0416	0.3315
0.1	8.4469	4.4106	0.0245	0.5222	13.3817	0.3336
0.105	8.3677	4.274	0.025	0.5108	13.6968	0.3355
0.11	8.2983	4.1551	0.0254	0.5007	14.0228	0.3373
0.115	8.2292	4.0375	0.0258	0.4906	14.3203	0.3391
0.12	8.1676	3.9287	0.0262	0.481	14.6094	0.3407
0.125	8.1049	3.8316	0.0266	0.4728	14.9119	0.3423
0.13	8.0455	3.7378	0.027	0.4646	15.1969	0.3438
0.135	7.9957	3.6493	0.0274	0.4564	15.4683	0.3452
0.14	7.9432	3.5667	0.0278	0.449	15.7412	0.3466
0.15	7.8541	3.417	0.0285	0.4351	16.271	0.349
0.155	7.8091	3.3477	0.0289	0.4287	16.53	0.3502
0.16	7.7693	3.2806	0.0292	0.4223	16.774	0.3513
0.17	7.6918	3.1573	0.0298	0.4105	17.2575	0.3535
0.175	7.6562	3.0986	0.0302	0.4047	17.4843	0.3545
0.185	7.5864	2.9948	0.0308	0.3948	17.9625	0.3564
0.19	7.5559	2.9449	0.0311	0.3897	18.1849	0.3573
0.2	7.4974	2.8515	0.0317	0.3803	18.6222	0.359
0.205	7.4684	2.8053	0.032	0.3756	18.8224	0.3598
0.215	7.4169	2.7235	0.0326	0.3672	19.2449	0.3613
0.225	7.3668	2.6449	0.0331	0.359	19.6388	0.3628
0.235	7.3217	2.5752	0.0337	0.3517	20.0442	0.3641
0.245	7.2787	2.5055	0.0341	0.3442	20.4038	0.3654
0.255	7.2414	2.4435	0.0346	0.3374	20.7752	0.3666
0.265	7.2025	2.3836	0.0351	0.3309	21.1281	0.3677
0.275	7.1678	2.3284	0.0356	0.3248	21.4791	0.3688
0.29	7.1188	2.2502	0.0363	0.3161	21.9802	0.3703
0.3	7.0879	2.2032	0.0368	0.3108	22.3203	0.3713
0.315	7.0473	2.1337	0.0374	0.3028	22.7746	0.3725
0.325	7.0199	2.092	0.0378	0.298	23.0916	0.3734
0.34	6.9857	2.0327	0.0384	0.291	23.5419	0.3745
0.355	6.9499	1.9771	0.039	0.2845	23.9796	0.3756
0.37	6.9213	1.9266	0.0396	0.2784	24.4151	0.3765
0.385	6.8926	1.8789	0.0402	0.2726	24.836	0.3775
0.405	6.8577	1.8196	0.041	0.2653	25.3783	0.3786
0.42	6.833	1.7788	0.0415	0.2603	25.7824	0.3794
0.44	6.8018	1.7281	0.0423	0.2541	26.3101	0.3804
0.455	6.7804	1.6926	0.0428	0.2496	26.6972	0.3811
0.475	6.7528	1.6484	0.0435	0.2441	27.2078	0.382

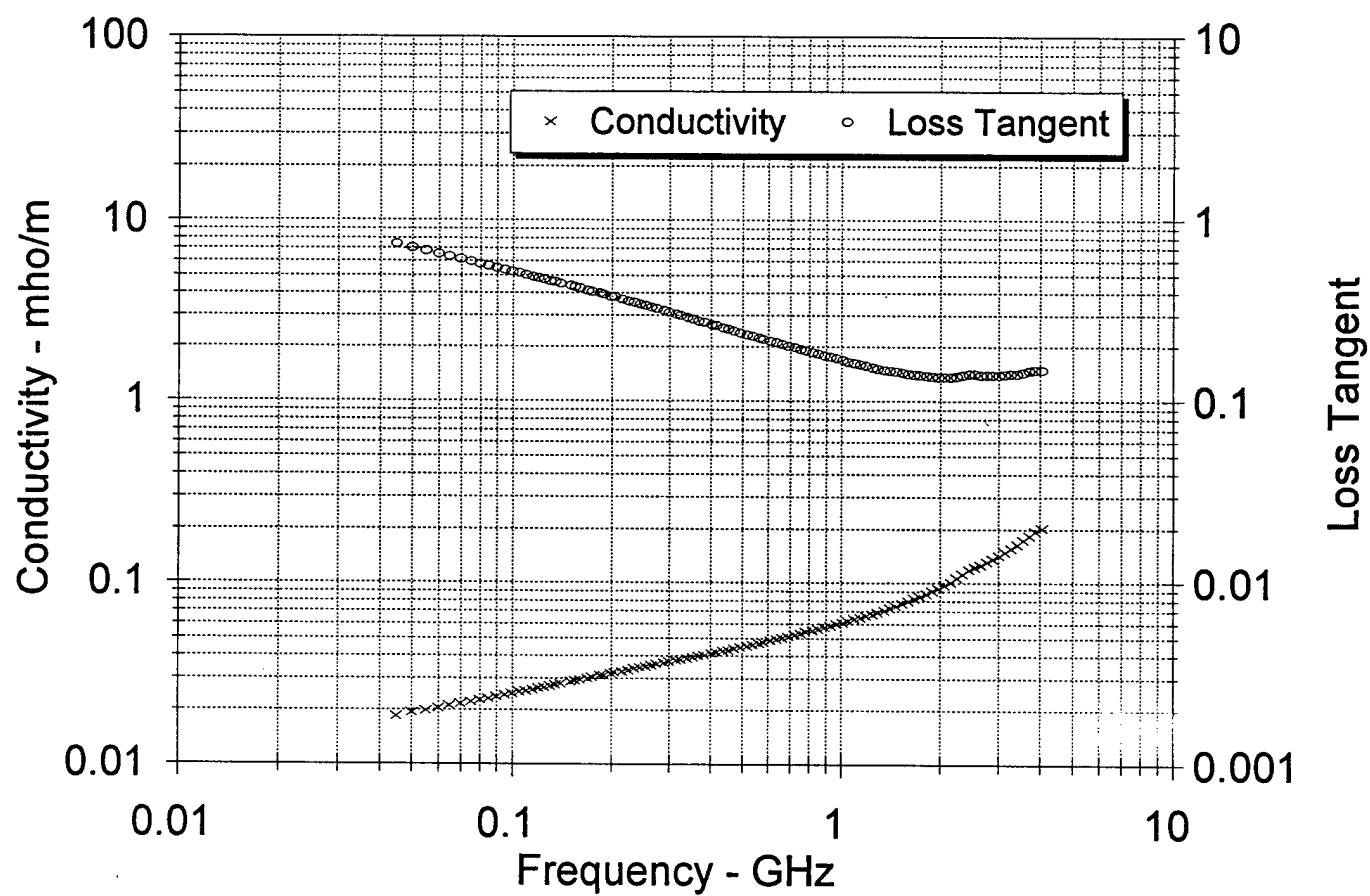
0.495	6.7281	1.6064	0.0442	0.2388	27.6898	0.3828
0.52	6.6997	1.5587	0.0451	0.2327	28.2951	0.3838
0.54	6.6787	1.5244	0.0458	0.2282	28.7874	0.3845
0.565	6.6544	1.4851	0.0467	0.2232	29.4064	0.3853
0.585	6.6356	1.4565	0.0474	0.2195	29.909	0.3859
0.61	6.6127	1.4214	0.0482	0.215	30.496	0.3867
0.64	6.5884	1.3821	0.0492	0.2098	31.1752	0.3875
0.665	6.5705	1.351	0.05	0.2056	31.714	0.3881
0.695	6.55	1.3181	0.0509	0.2012	32.3956	0.3888
0.725	6.5318	1.289	0.052	0.1973	33.0999	0.3894
0.755	6.5074	1.26	0.0529	0.1936	33.7633	0.3902
0.785	6.4924	1.2344	0.0539	0.1901	34.4362	0.3907
0.82	6.4723	1.2052	0.055	0.1862	35.1836	0.3914
0.855	6.4546	1.1785	0.056	0.1826	35.9264	0.392
0.895	6.4346	1.1504	0.0573	0.1788	36.7748	0.3927
0.93	6.4171	1.1256	0.0582	0.1754	37.4441	0.3933
0.97	6.4009	1.0992	0.0593	0.1717	38.1919	0.3938
1.015	6.3847	1.0734	0.0606	0.1681	39.0813	0.3944
1.055	6.3722	1.0531	0.0618	0.1653	39.8993	0.3948
1.1	6.3606	1.0325	0.0632	0.1623	40.8283	0.3952
1.15	6.344	1.011	0.0647	0.1594	41.8561	0.3958
1.195	6.3292	0.993	0.066	0.1569	42.7713	0.3963
1.25	6.316	0.9694	0.0674	0.1535	43.7271	0.3967
1.3	6.3083	0.9529	0.0689	0.1511	44.734	0.397
1.36	6.298	0.9373	0.0709	0.1488	46.0753	0.3974
1.415	6.2883	0.9244	0.0727	0.147	47.3202	0.3977
1.475	6.2771	0.9127	0.0749	0.1454	48.7451	0.3981
1.54	6.2651	0.9002	0.0771	0.1437	50.2511	0.3985
1.605	6.2547	0.8884	0.0793	0.142	51.7281	0.3989
1.675	6.2446	0.8766	0.0816	0.1404	53.3151	0.3992
1.745	6.236	0.8667	0.0841	0.139	54.9538	0.3995
1.82	6.2293	0.8572	0.0867	0.1376	56.7196	0.3997
1.9	6.2217	0.8524	0.0901	0.137	58.9203	0.4
1.98	6.2131	0.8484	0.0934	0.1365	61.1543	0.4003
2.065	6.2045	0.8464	0.0972	0.1364	63.6751	0.4005
2.155	6.1949	0.8451	0.1013	0.1364	66.4029	0.4008
2.25	6.1871	0.8481	0.1061	0.1371	69.6183	0.4011
2.345	6.1757	0.8559	0.1116	0.1386	73.2849	0.4014
2.445	6.1529	0.8665	0.1178	0.1408	77.4969	0.4022
2.55	6.1253	0.8604	0.122	0.1405	80.4404	0.4031
2.66	6.1112	0.8505	0.1258	0.1392	83.037	0.4035
2.775	6.1008	0.8479	0.1308	0.139	86.4363	0.4039
2.89	6.089	0.8454	0.1359	0.1388	89.8425	0.4043
3.015	6.08	0.8432	0.1414	0.1387	93.557	0.4046
3.145	6.0741	0.8491	0.1485	0.1398	98.3152	0.4048
3.28	6.0626	0.8556	0.1561	0.1411	103.4186	0.4051
3.42	6.052	0.8609	0.1637	0.1422	108.5861	0.4055
3.57	6.0432	0.8702	0.1727	0.144	114.6455	0.4057
3.72	6.0308	0.8837	0.1828	0.1465	121.4351	0.4061
3.88	6.0106	0.8929	0.1927	0.1486	128.1873	0.4068
4.045	5.9967	0.8957	0.2015	0.1494	134.2105	0.4072

SB40E23N , File: 3SP61509  
20 deg C, Mv = 18.3%, 1.180 g/cc (dry)

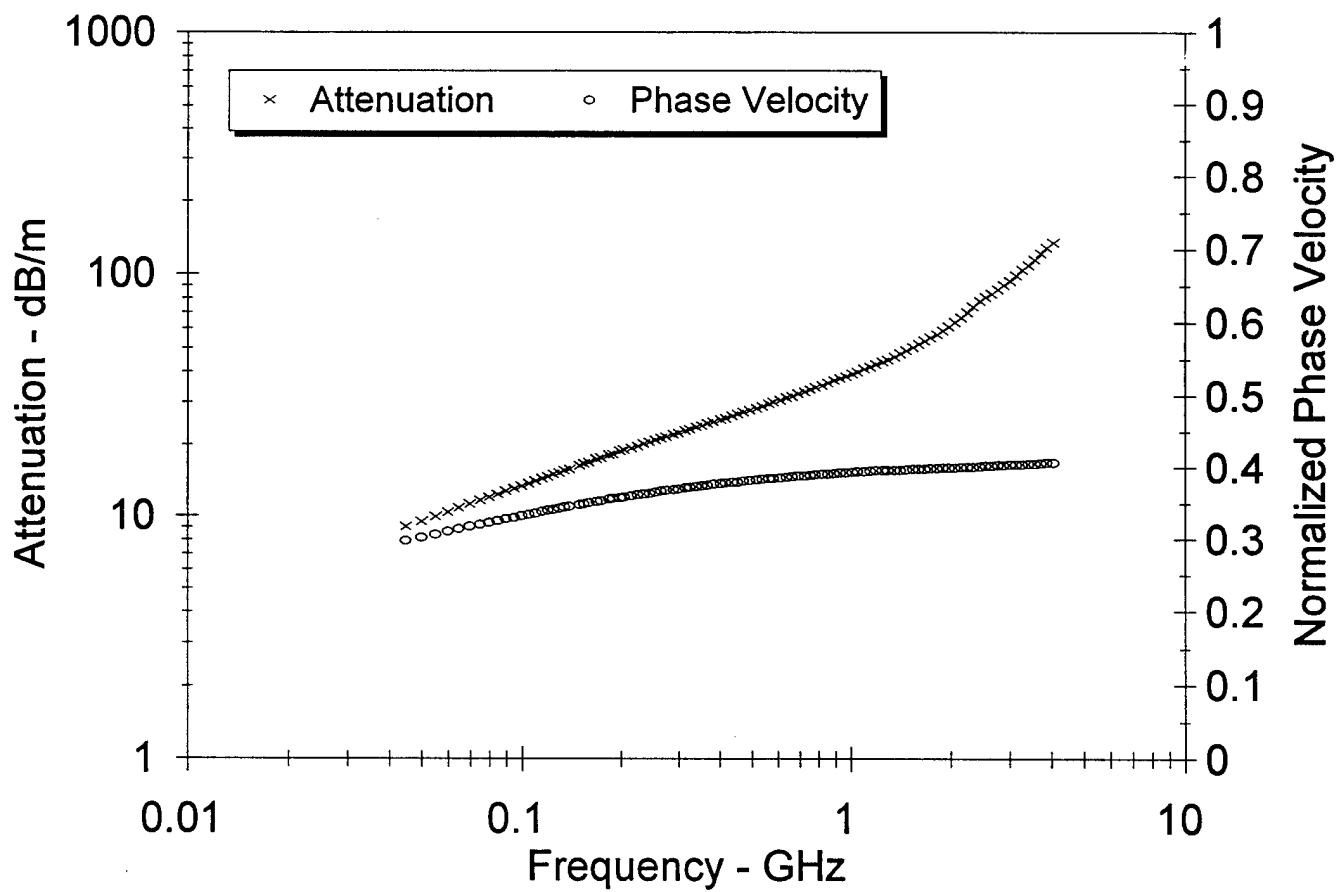




SB40E23N , File: 3SP61509  
20 deg C, Mv = 18.3%, 1.180 g/cc (dry)



SB40E23N , File: 3SP61509  
20 deg C, Mv = 18.3%, 1.180 g/cc (dry)



3SP61525  
TC77.5E60.5N

9.7

3

TC77.5E60.5N , File: 3SP61525

14.3

20 deg C, Mv = 14.3%, 1.280 g/cc (dry)

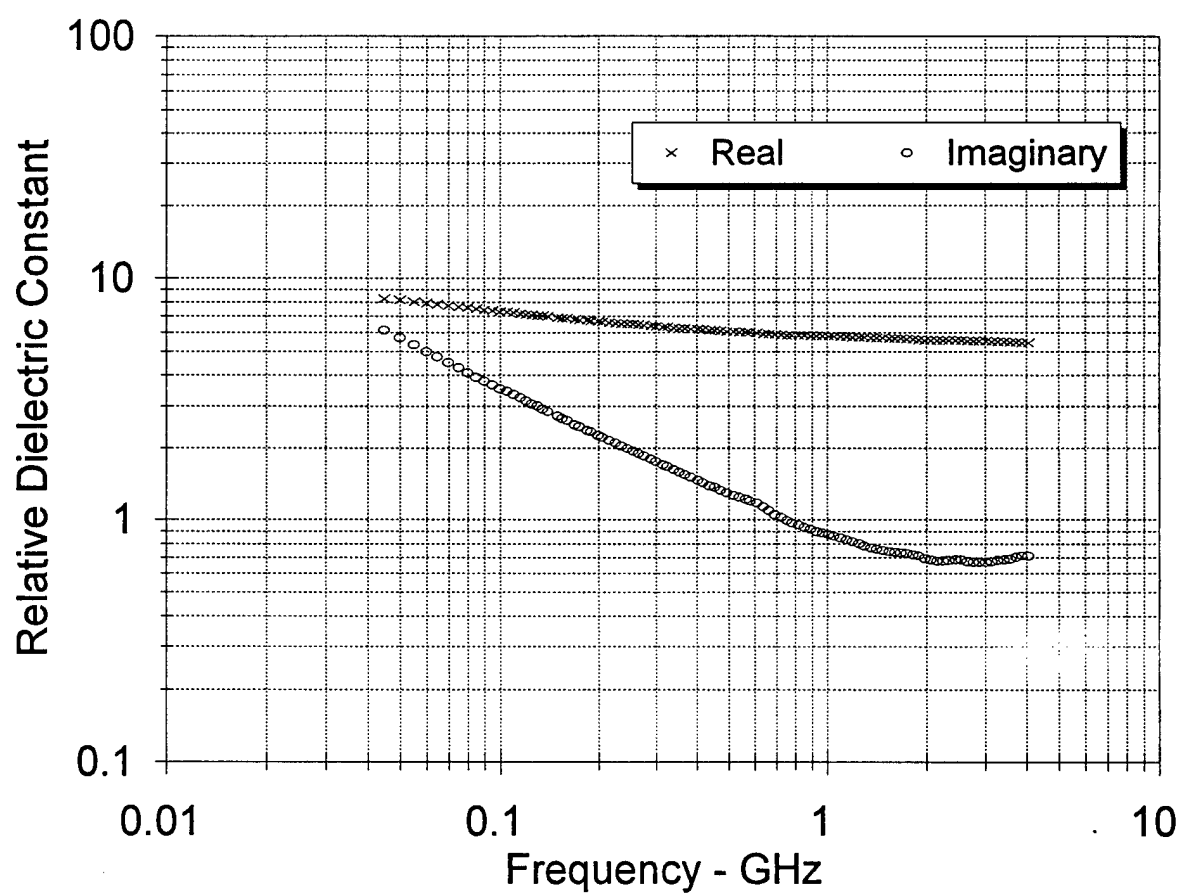
20

1.28

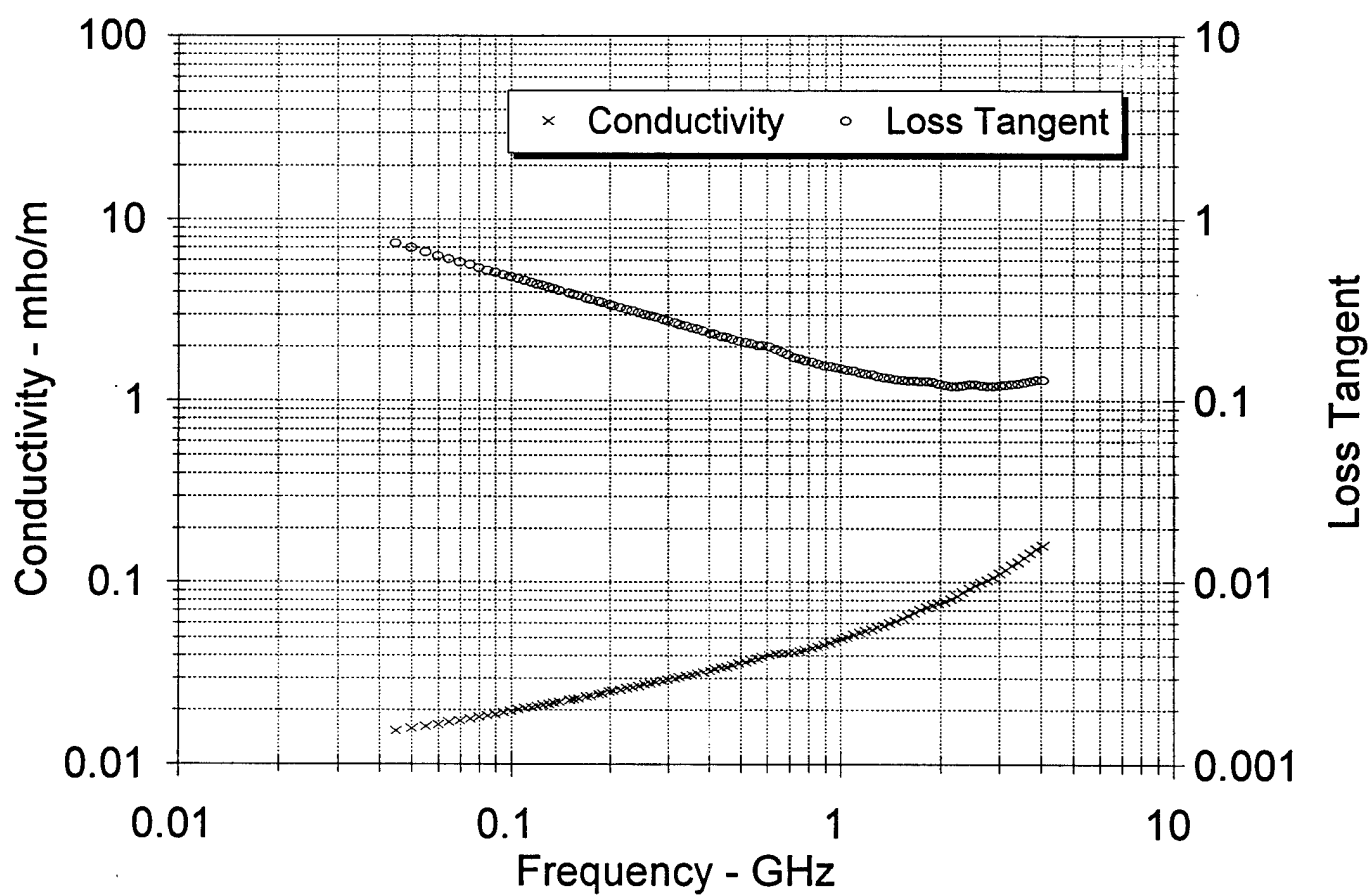
0.045	8.2637	6.0976	0.0153	0.7379	8.1988	0.3285
0.05	8.1304	5.6654	0.0158	0.6968	8.5791	0.333
0.055	8.001	5.2909	0.0162	0.6613	8.9244	0.3372
0.06	7.9056	4.9816	0.0166	0.6301	9.2574	0.3405
0.065	7.7952	4.7197	0.0171	0.6055	9.5972	0.3439
0.07	7.7073	4.4828	0.0174	0.5816	9.9002	0.3469
0.075	7.6244	4.279	0.0178	0.5612	10.2041	0.3496
0.08	7.552	4.0992	0.0182	0.5428	10.4986	0.352
0.085	7.4737	3.9331	0.0186	0.5263	10.7784	0.3544
0.09	7.4094	3.784	0.0189	0.5107	11.0458	0.3566
0.095	7.3537	3.6506	0.0193	0.4964	11.3081	0.3585
0.1	7.2873	3.5258	0.0196	0.4838	11.5637	0.3606
0.105	7.2477	3.4257	0.02	0.4727	11.8428	0.362
0.11	7.1904	3.3162	0.0203	0.4612	12.0718	0.3638
0.115	7.1454	3.2188	0.0206	0.4505	12.3016	0.3654
0.12	7.0976	3.133	0.0209	0.4414	12.5474	0.3669
0.125	7.0588	3.0492	0.0212	0.432	12.7669	0.3683
0.13	7.0181	2.9725	0.0215	0.4235	12.9914	0.3696
0.135	6.9833	2.899	0.0218	0.4151	13.2005	0.3708
0.14	6.9469	2.8326	0.0221	0.4077	13.4199	0.372
0.15	6.884	2.709	0.0226	0.3935	13.8314	0.3742
0.155	6.8529	2.6546	0.0229	0.3874	14.0446	0.3753
0.16	6.8247	2.5998	0.0231	0.3809	14.2355	0.3763
0.17	6.7686	2.5006	0.0236	0.3694	14.623	0.3782
0.175	6.7443	2.4547	0.0239	0.364	14.8098	0.379
0.185	6.6936	2.371	0.0244	0.3542	15.1918	0.3808
0.19	6.6714	2.3307	0.0246	0.3494	15.3685	0.3815
0.2	6.6301	2.2511	0.025	0.3395	15.6857	0.383
0.205	6.6096	2.2186	0.0253	0.3357	15.875	0.3837
0.215	6.572	2.1492	0.0257	0.327	16.1853	0.3851
0.225	6.54	2.0912	0.0262	0.3197	16.53	0.3862
0.235	6.5064	2.0409	0.0267	0.3137	16.9007	0.3874
0.245	6.4751	1.9865	0.0271	0.3068	17.2006	0.3885
0.255	6.4468	1.9376	0.0275	0.3005	17.5073	0.3896
0.265	6.4175	1.8918	0.0279	0.2948	17.8123	0.3906
0.275	6.3911	1.8486	0.0283	0.2892	18.1059	0.3916
0.29	6.3545	1.7887	0.0288	0.2815	18.5376	0.3929
0.3	6.3301	1.7497	0.0292	0.2764	18.8015	0.3938
0.315	6.3014	1.6993	0.0298	0.2697	19.2243	0.3949
0.325	6.2804	1.6663	0.0301	0.2653	19.488	0.3956
0.34	6.2517	1.622	0.0307	0.2594	19.8978	0.3967
0.355	6.2286	1.5813	0.0312	0.2539	20.2992	0.3975
0.37	6.2028	1.5419	0.0317	0.2486	20.6783	0.3985
0.385	6.1786	1.5055	0.0322	0.2437	21.0571	0.3994
0.405	6.1522	1.4606	0.0329	0.2374	21.5441	0.4004
0.42	6.1319	1.4303	0.0334	0.2333	21.9194	0.4012
0.44	6.1057	1.3913	0.034	0.2279	22.3922	0.4021
0.455	6.0885	1.3648	0.0345	0.2242	22.7498	0.4028
0.475	6.0657	1.3316	0.0352	0.2195	23.2225	0.4036

0.495	6.0458	1.3006	0.0358	0.2151	23.6807	0.4044
0.52	6.0227	1.2666	0.0366	0.2103	24.2795	0.4053
0.54	6.0053	1.2432	0.0373	0.207	24.7872	0.4059
0.565	5.9826	1.2199	0.0383	0.2039	25.4998	0.4068
0.585	5.9602	1.2033	0.0391	0.2019	26.0955	0.4076
0.61	5.9288	1.1811	0.0401	0.1992	26.7827	0.4087
0.64	5.8882	1.1405	0.0406	0.1937	27.2341	0.4102
0.665	5.8674	1.0982	0.0406	0.1872	27.3063	0.4111
0.695	5.8569	1.0555	0.0408	0.1802	27.4595	0.4116
0.725	5.8488	1.0247	0.0413	0.1752	27.8364	0.4119
0.755	5.8359	0.9951	0.0418	0.1705	28.1867	0.4125
0.785	5.8313	0.9757	0.0426	0.1673	28.7517	0.4127
0.82	5.8217	0.953	0.0435	0.1637	29.3606	0.4131
0.855	5.813	0.9336	0.0444	0.1606	30.0169	0.4134
0.895	5.8027	0.9142	0.0455	0.1576	30.8017	0.4139
0.93	5.7925	0.8992	0.0465	0.1552	31.5113	0.4143
0.97	5.7803	0.8845	0.0477	0.153	32.3667	0.4147
1.015	5.765	0.8688	0.049	0.1507	33.311	0.4153
1.055	5.752	0.855	0.0502	0.1487	34.1179	0.4158
1.1	5.7401	0.8412	0.0515	0.1465	35.0351	0.4163
1.15	5.7246	0.8262	0.0528	0.1443	36.0285	0.4169
1.195	5.7112	0.8118	0.0539	0.1421	36.8315	0.4174
1.25	5.6975	0.795	0.0553	0.1395	37.7752	0.4179
1.3	5.6874	0.7818	0.0565	0.1375	38.6745	0.4183
1.36	5.6759	0.7673	0.058	0.1352	39.7494	0.4188
1.415	5.6687	0.7553	0.0594	0.1332	40.7422	0.4191
1.475	5.6608	0.7468	0.0612	0.1319	42.019	0.4194
1.54	5.6509	0.7393	0.0633	0.1308	43.4735	0.4198
1.605	5.6416	0.7331	0.0654	0.1299	44.9637	0.4201
1.675	5.6306	0.7291	0.0679	0.1295	46.7153	0.4206
1.745	5.6158	0.7258	0.0704	0.1292	48.5112	0.4211
1.82	5.6003	0.719	0.0728	0.1284	50.1948	0.4217
1.9	5.5814	0.7091	0.0749	0.1271	51.7693	0.4224
1.98	5.5701	0.6923	0.0762	0.1243	52.7289	0.4229
2.065	5.5659	0.6819	0.0783	0.1225	54.1887	0.4231
2.155	5.5615	0.6746	0.0808	0.1213	55.9692	0.4233
2.25	5.5594	0.673	0.0842	0.1211	58.307	0.4233
2.345	5.5531	0.6765	0.0882	0.1218	61.1211	0.4236
2.445	5.541	0.6831	0.0929	0.1233	64.4158	0.424
2.55	5.52	0.6829	0.0968	0.1237	67.286	0.4248
2.66	5.506	0.6724	0.0995	0.1221	69.2029	0.4254
2.775	5.5014	0.6674	0.103	0.1213	71.6936	0.4256
2.89	5.4943	0.6664	0.1071	0.1213	74.5957	0.4258
3.015	5.4888	0.6675	0.1119	0.1216	77.9856	0.4261
3.145	5.4823	0.6719	0.1175	0.1226	81.9418	0.4263
3.28	5.4705	0.6774	0.1236	0.1238	86.2441	0.4267
3.42	5.4616	0.6804	0.1294	0.1246	90.396	0.4271
3.57	5.4548	0.6876	0.1365	0.1261	95.418	0.4273
3.72	5.4441	0.699	0.1446	0.1284	101.1665	0.4277
3.88	5.4238	0.7086	0.1529	0.1306	107.1486	0.4285
4.045	5.4068	0.7069	0.159	0.1307	111.6082	0.4291

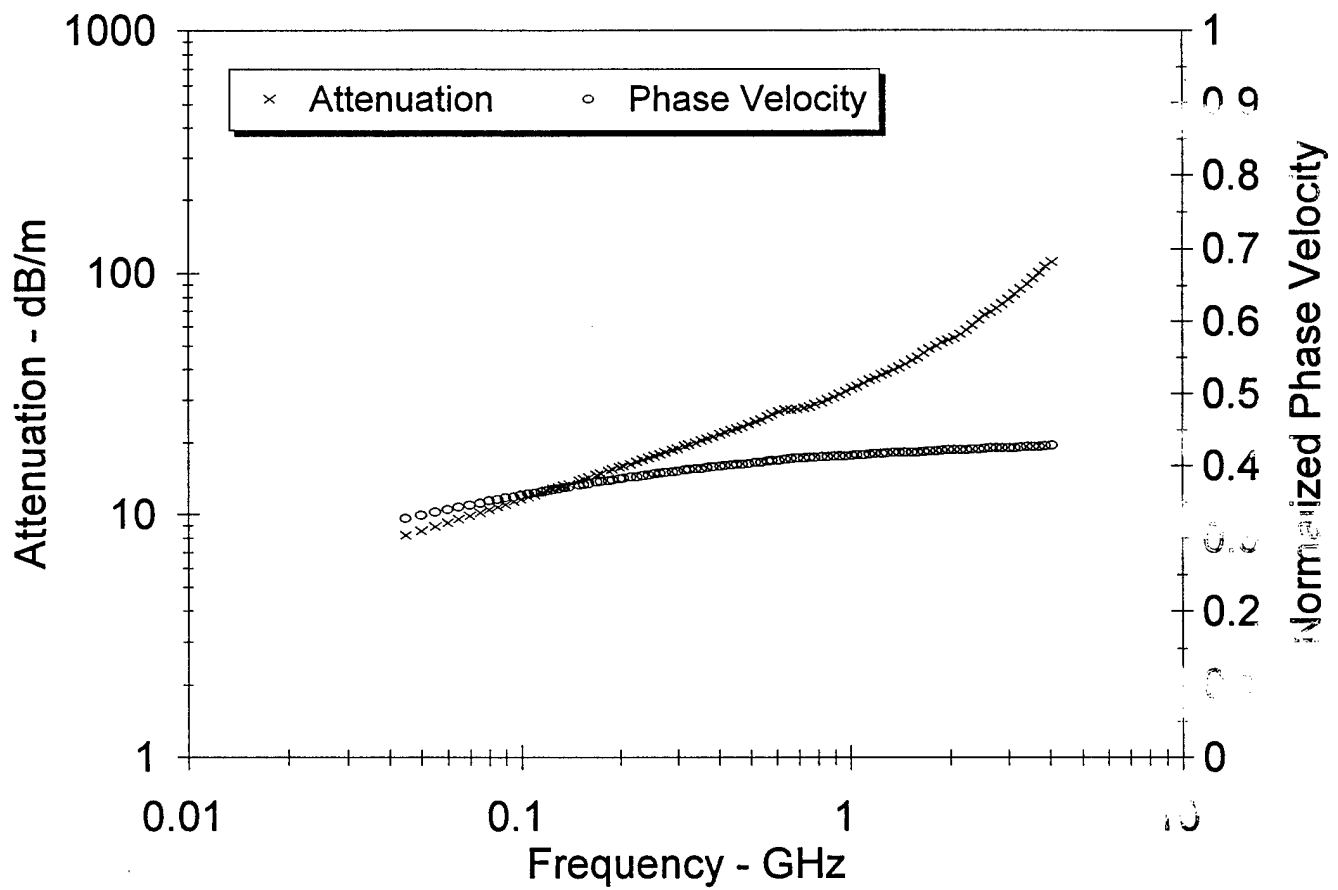
TC77.5E60.5N , File: 3SP61525  
20 deg C, Mv = 14.3%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 3SP61525  
20 deg C, Mv = 14.3%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 3SP61525  
20 deg C, Mv = 14.3%, 1.280 g/cc (dry)



3SP61540  
TC65E10.5N

9.7

4

9

20

1.3

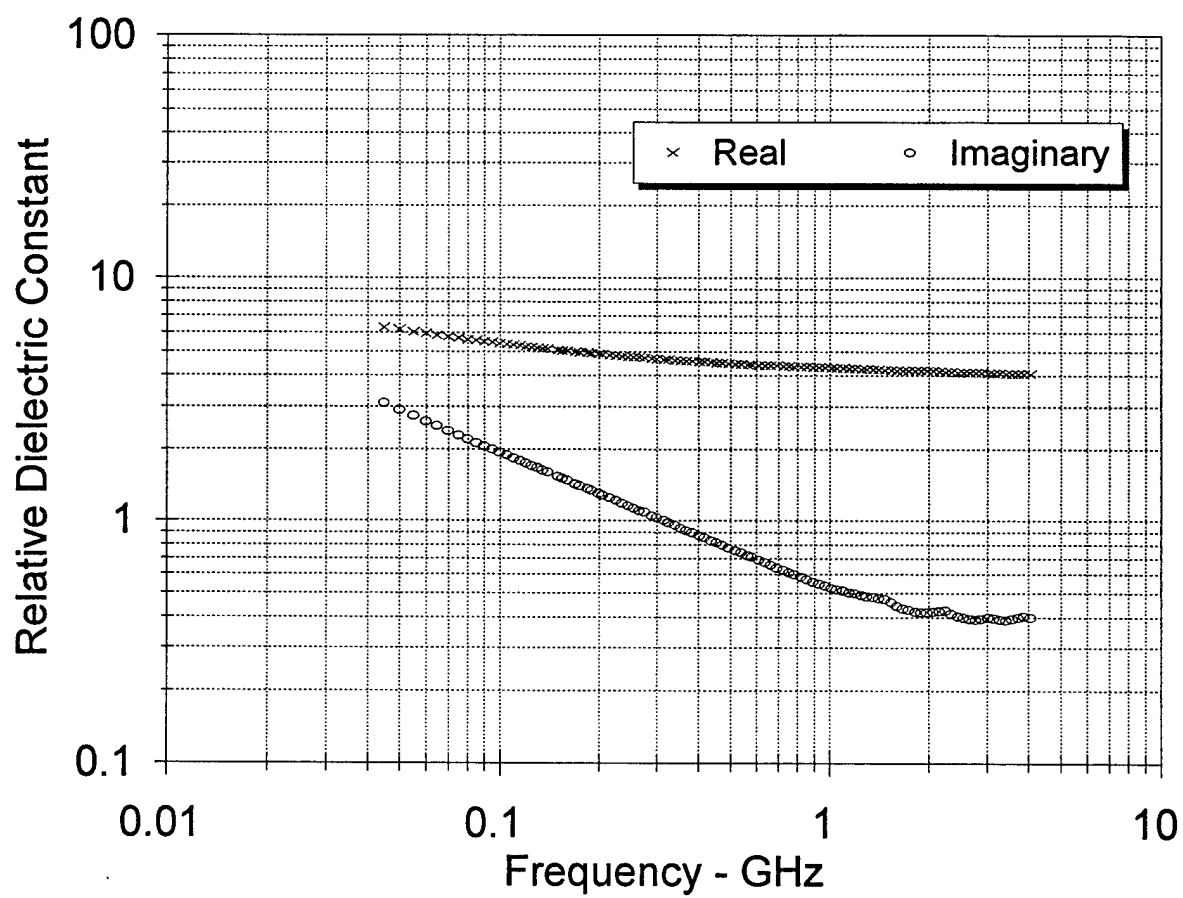
TC65E10.5N , File: 3SP61540  
20 deg C, Mv = 9.0%, 1.300 g/cc (dry)

0.045	6.2577	3.07	0.0077	0.4906	4.8861	0.3888
0.05	6.122	2.8822	0.008	0.4708	5.1637	0.3939
0.055	5.9963	2.7247	0.0083	0.4544	5.4345	0.3987
0.06	5.9099	2.5848	0.0086	0.4374	5.6744	0.4023
0.065	5.8073	2.4777	0.009	0.4267	5.9505	0.4062
0.07	5.7312	2.3699	0.0092	0.4135	6.1775	0.4094
0.075	5.6596	2.2777	0.0095	0.4024	6.4076	0.4124
0.08	5.5905	2.1961	0.0098	0.3928	6.6363	0.4153
0.085	5.5323	2.1188	0.01	0.383	6.8444	0.4178
0.09	5.4777	2.0511	0.0103	0.3744	7.0556	0.4202
0.095	5.4299	1.9879	0.0105	0.3661	7.2549	0.4223
0.1	5.3816	1.9292	0.0107	0.3585	7.4489	0.4245
0.105	5.3493	1.8843	0.011	0.3522	7.6663	0.426
0.11	5.3017	1.8315	0.0112	0.3455	7.8456	0.4281
0.115	5.2679	1.7842	0.0114	0.3387	8.0201	0.4297
0.12	5.2335	1.7408	0.0116	0.3326	8.1963	0.4314
0.125	5.2029	1.701	0.0118	0.3269	8.3706	0.4328
0.13	5.17	1.6638	0.012	0.3218	8.5454	0.4343
0.135	5.1436	1.6274	0.0122	0.3164	8.7056	0.4356
0.14	5.1165	1.5949	0.0124	0.3117	8.8739	0.4369
0.15	5.0685	1.535	0.0128	0.3028	9.1997	0.4393
0.155	5.0443	1.5081	0.013	0.299	9.3649	0.4405
0.16	5.025	1.4812	0.0132	0.2948	9.5159	0.4414
0.17	4.9828	1.4297	0.0135	0.2869	9.8051	0.4435
0.175	4.9651	1.4064	0.0137	0.2833	9.9493	0.4444
0.185	4.929	1.3642	0.014	0.2768	10.2443	0.4463
0.19	4.912	1.3443	0.0142	0.2737	10.3874	0.4471
0.2	4.8809	1.3043	0.0145	0.2672	10.647	0.4487
0.205	4.8655	1.2849	0.0146	0.2641	10.77	0.4495
0.215	4.8374	1.2512	0.015	0.2587	11.0346	0.451
0.225	4.8115	1.2167	0.0152	0.2529	11.2633	0.4523
0.235	4.7876	1.1892	0.0155	0.2484	11.5302	0.4536
0.245	4.7662	1.1592	0.0158	0.2432	11.7478	0.4547
0.255	4.7464	1.1328	0.0161	0.2387	11.9769	0.4558
0.265	4.7258	1.1075	0.0163	0.2343	12.1973	0.4569
0.275	4.708	1.0857	0.0166	0.2306	12.4347	0.4579
0.29	4.6819	1.0515	0.017	0.2246	12.7394	0.4593
0.3	4.665	1.0309	0.0172	0.221	12.947	0.4602
0.315	4.6437	1.0035	0.0176	0.2161	13.2668	0.4614
0.325	4.6291	0.9849	0.0178	0.2128	13.4569	0.4622
0.34	4.6097	0.959	0.0181	0.208	13.7407	0.4633
0.355	4.5934	0.937	0.0185	0.204	14.0446	0.4642
0.37	4.5755	0.9135	0.0188	0.1997	14.3025	0.4652
0.385	4.5591	0.8938	0.0191	0.196	14.5898	0.4661
0.405	4.5404	0.8687	0.0196	0.1913	14.9499	0.4672
0.42	4.5264	0.8511	0.0199	0.188	15.2161	0.468
0.44	4.5082	0.8286	0.0203	0.1838	15.5528	0.469
0.455	4.4965	0.8125	0.0206	0.1807	15.7938	0.4697
0.475	4.4803	0.7925	0.0209	0.1769	16.1146	0.4706

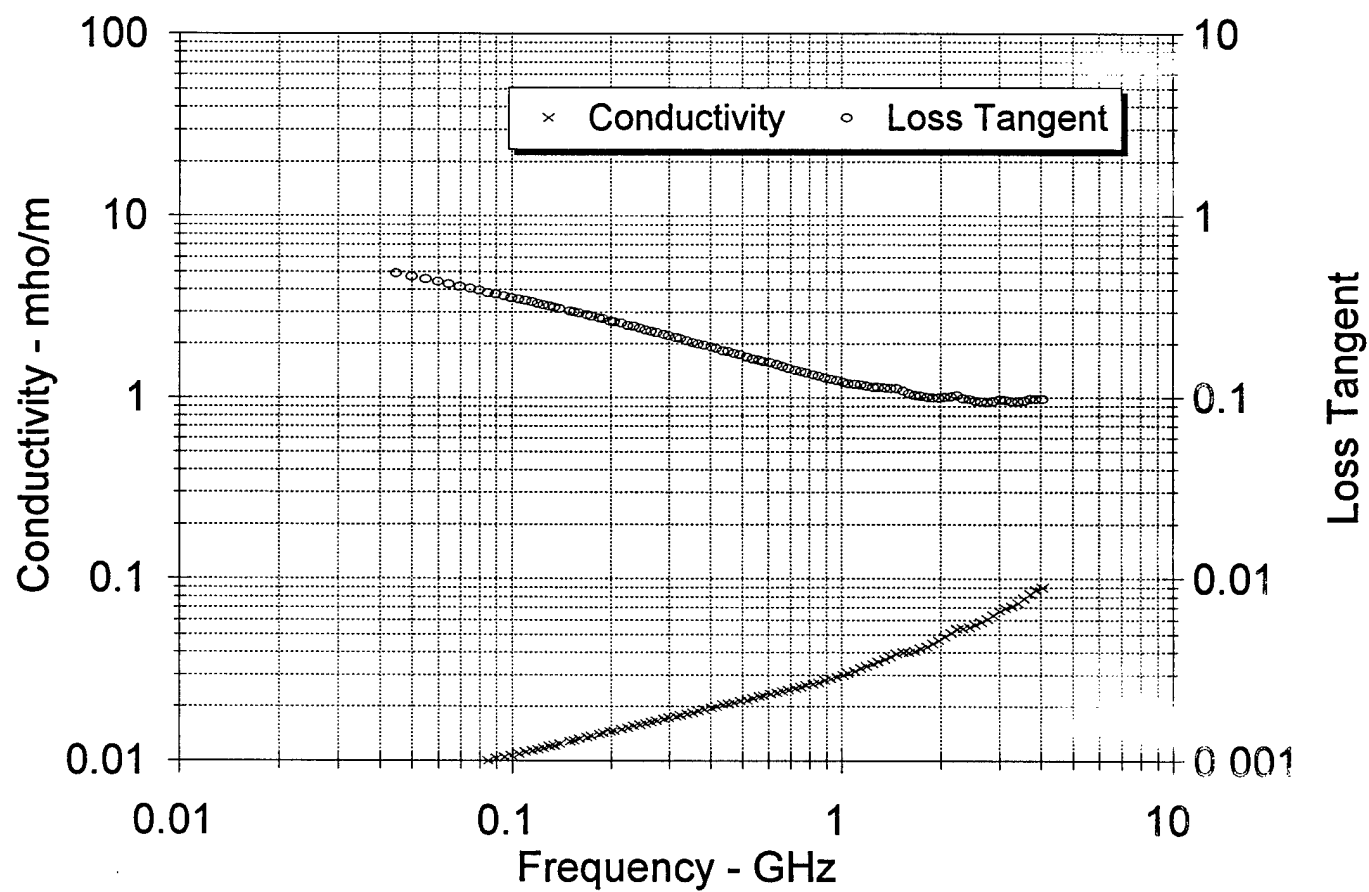


0.495	4.4661	0.7735	0.0213	0.1732	16.4187	0.4714
0.52	4.4495	0.7512	0.0217	0.1688	16.7843	0.4724
0.54	4.4367	0.7353	0.0221	0.1657	17.0872	0.4731
0.565	4.4221	0.7173	0.0225	0.1622	17.4735	0.474
0.585	4.4107	0.7049	0.0229	0.1598	17.803	0.4746
0.61	4.3975	0.6882	0.0233	0.1565	18.1542	0.4754
0.64	4.3837	0.6696	0.0238	0.1528	18.5641	0.4762
0.665	4.3748	0.654	0.0242	0.1495	18.8616	0.4768
0.695	4.3652	0.637	0.0246	0.1459	19.2233	0.4774
0.725	4.3573	0.6235	0.0251	0.1431	19.649	0.4778
0.755	4.3456	0.609	0.0256	0.1401	20.0145	0.4785
0.785	4.3367	0.5982	0.0261	0.1379	20.4609	0.4791
0.82	4.3264	0.5831	0.0266	0.1348	20.8614	0.4797
0.855	4.3192	0.5703	0.0271	0.132	21.2964	0.4801
0.895	4.3118	0.5578	0.0278	0.1294	21.8248	0.4806
0.93	4.3049	0.5476	0.0283	0.1272	22.2826	0.481
0.97	4.2971	0.5367	0.0289	0.1249	22.7992	0.4815
1.015	4.2887	0.5263	0.0297	0.1227	23.4166	0.482
1.055	4.2822	0.5184	0.0304	0.1211	23.9957	0.4824
1.1	4.2766	0.5116	0.0313	0.1196	24.7103	0.4827
1.15	4.2683	0.5047	0.0323	0.1183	25.5111	0.4832
1.195	4.2587	0.4993	0.0332	0.1172	26.2528	0.4837
1.25	4.2481	0.4906	0.0341	0.1155	27.0207	0.4844
1.3	4.2407	0.4853	0.0351	0.1144	27.8219	0.4848
1.36	4.2308	0.4814	0.0364	0.1138	28.9079	0.4854
1.415	4.2214	0.4766	0.0375	0.1129	29.8093	0.4859
1.475	4.2068	0.4749	0.0389	0.1129	31.0128	0.4868
1.54	4.1873	0.4602	0.0394	0.1099	31.4531	0.488
1.605	4.1824	0.4437	0.0396	0.1061	31.6286	0.4883
1.675	4.1806	0.4334	0.0404	0.1037	32.2477	0.4884
1.745	4.1782	0.4265	0.0414	0.1021	33.0722	0.4886
1.82	4.1769	0.4215	0.0427	0.1009	34.0995	0.4887
1.9	4.1737	0.4193	0.0443	0.1005	35.4227	0.4889
1.98	4.1693	0.4187	0.0461	0.1004	36.8809	0.4891
2.065	4.1648	0.4206	0.0483	0.101	38.6587	0.4894
2.155	4.1541	0.4237	0.0508	0.102	40.6926	0.49
2.25	4.1363	0.4258	0.0533	0.1029	42.7934	0.491
2.345	4.1219	0.4112	0.0536	0.0998	43.144	0.4919
2.445	4.1184	0.4035	0.0549	0.098	44.1639	0.4922
2.55	4.1143	0.3965	0.0562	0.0964	45.2902	0.4924
2.66	4.1117	0.3929	0.0581	0.0956	46.8276	0.4926
2.775	4.1094	0.391	0.0603	0.0951	48.6272	0.4927
2.89	4.1064	0.3926	0.0631	0.0956	50.8685	0.4929
3.015	4.0988	0.3986	0.0668	0.0973	53.9332	0.4934
3.145	4.0856	0.3953	0.0691	0.0968	55.8866	0.4942
3.28	4.0809	0.39	0.0711	0.0956	57.533	0.4945
3.42	4.0782	0.3899	0.0741	0.0956	59.9894	0.4946
3.57	4.075	0.3929	0.078	0.0964	63.1358	0.4948
3.72	4.0683	0.3996	0.0827	0.0982	66.949	0.4952
3.88	4.0523	0.4023	0.0868	0.0993	70.4517	0.4962
4.045	4.0435	0.3972	0.0894	0.0982	72.5961	0.4967

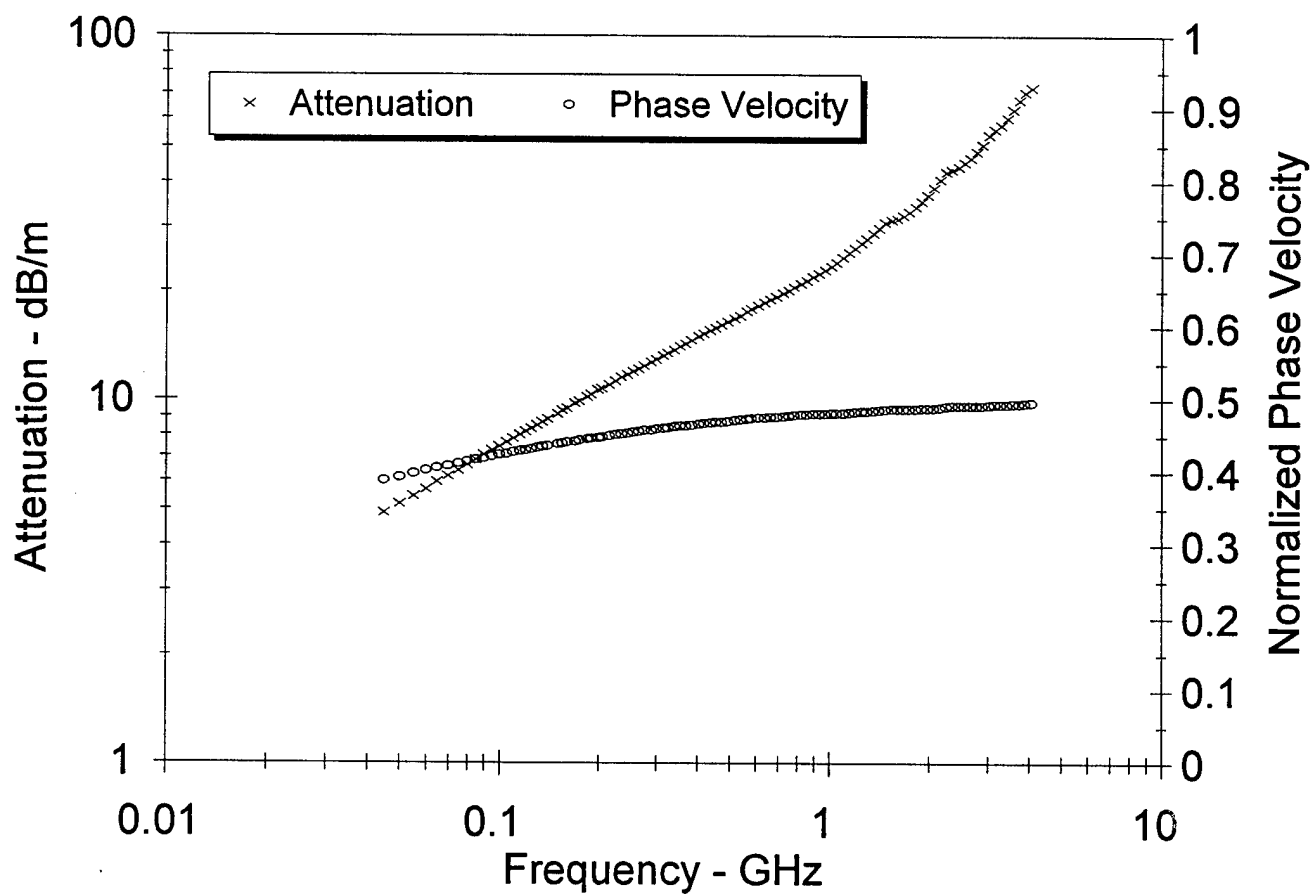
TC65E10.5N , File: 3SP61540  
20 deg C, Mv = 9.0%, 1.300 g/cc (dry)



TC65E10.5N , File: 3SP61540  
20 deg C, Mv = 9.0%, 1.300 g/cc (dry)



TC65E10.5N , File: 3SP61540  
20 deg C, Mv = 9.0%, 1.300 g/cc (dry)



3SP61557  
SB65E10.5N

4.9

1

SB65E10.5N , File: 3SP61557

28.5

20 deg C, Mv = 28.5%, 1.350 g/cc (dry)

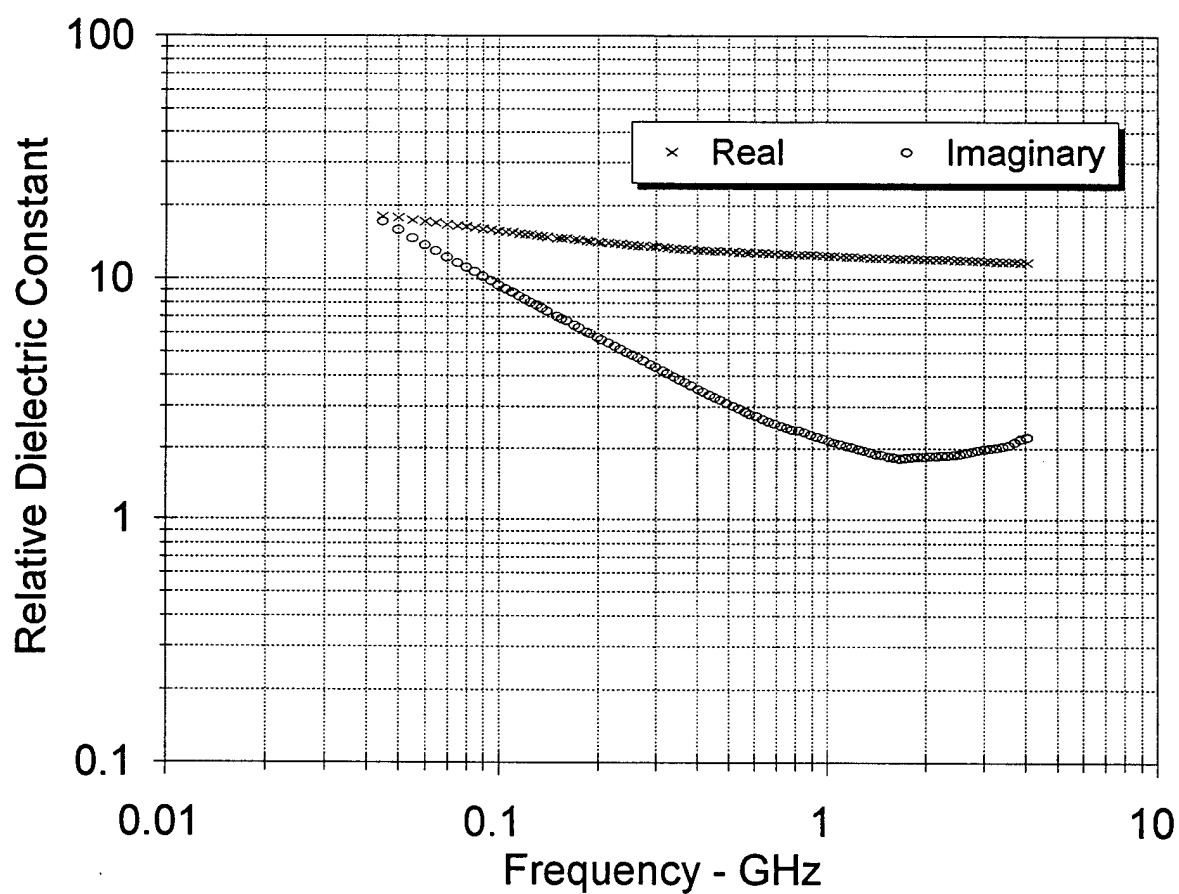
20

1.35

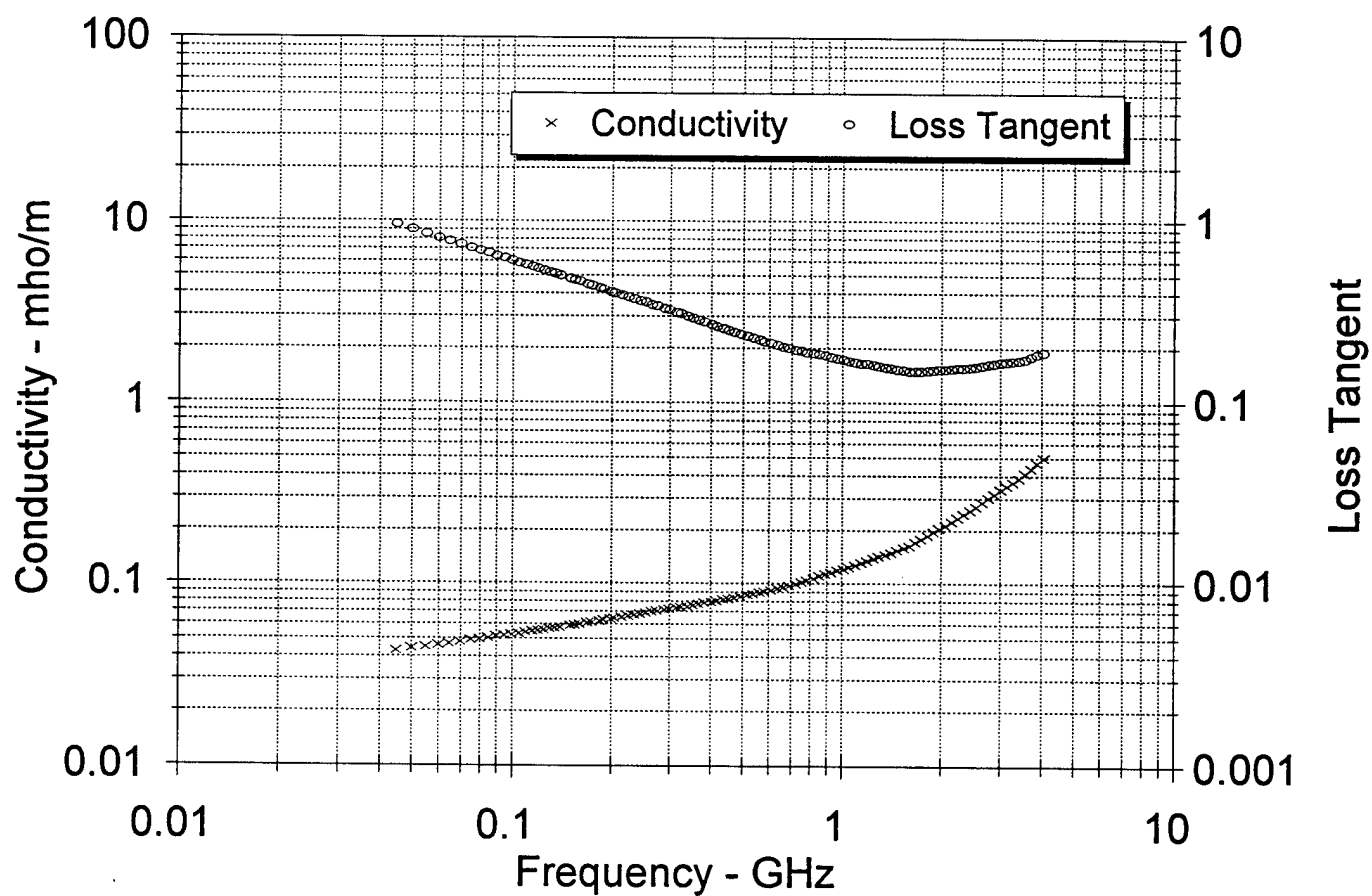
0.045	17.969	17.1183	0.0428	0.9527	15.1487	0.2162
0.05	17.6596	15.7702	0.0438	0.893	15.7762	0.22
0.055	17.3427	14.671	0.0449	0.8459	16.3996	0.2234
0.06	17.1104	13.6911	0.0457	0.8002	16.9153	0.2264
0.065	16.8595	12.936	0.0468	0.7673	17.5208	0.2291
0.07	16.6449	12.2327	0.0476	0.7349	18.0349	0.2316
0.075	16.4522	11.6269	0.0485	0.7067	18.5419	0.2338
0.08	16.2764	11.0976	0.0494	0.6818	19.0401	0.2358
0.085	16.0914	10.6075	0.0501	0.6592	19.5032	0.2378
0.09	15.9583	10.1886	0.051	0.6385	19.9689	0.2394
0.095	15.7914	9.7677	0.0516	0.6185	20.3633	0.2413
0.1	15.6491	9.3956	0.0522	0.6004	20.7571	0.2429
0.105	15.4992	9.0395	0.0528	0.5832	21.1128	0.2446
0.11	15.4184	8.7821	0.0537	0.5696	21.5787	0.2456
0.115	15.3079	8.5025	0.0544	0.5554	21.9555	0.2469
0.12	15.2082	8.2388	0.055	0.5417	22.3063	0.2481
0.125	15.1088	8.0038	0.0556	0.5297	22.6774	0.2492
0.13	15.009	7.7773	0.0562	0.5182	23.0222	0.2503
0.135	14.9275	7.5664	0.0568	0.5069	23.3509	0.2513
0.14	14.8482	7.3686	0.0574	0.4963	23.672	0.2523
0.15	14.7029	7.0146	0.0585	0.4771	24.3118	0.254
0.155	14.6336	6.8552	0.0591	0.4685	24.6311	0.2549
0.16	14.5705	6.6956	0.0596	0.4595	24.9097	0.2556
0.17	14.4498	6.4105	0.0606	0.4436	25.4849	0.2571
0.175	14.3922	6.2805	0.0611	0.4364	25.7715	0.2578
0.185	14.2826	6.0392	0.0621	0.4228	26.3317	0.2591
0.19	14.2363	5.9314	0.0627	0.4166	26.6188	0.2597
0.2	14.1503	5.7291	0.0637	0.4049	27.1756	0.2607
0.205	14.1001	5.6241	0.0641	0.3989	27.4077	0.2614
0.215	14.0204	5.447	0.0651	0.3885	27.9443	0.2623
0.225	13.9421	5.2771	0.066	0.3785	28.4359	0.2633
0.235	13.8705	5.1338	0.0671	0.3701	28.9883	0.2642
0.245	13.7979	4.9813	0.0679	0.361	29.4232	0.2651
0.255	13.7379	4.8478	0.0687	0.3529	29.8883	0.2658
0.265	13.6733	4.7206	0.0696	0.3452	30.3355	0.2666
0.275	13.6172	4.6008	0.0704	0.3379	30.7622	0.2673
0.29	13.5365	4.4341	0.0715	0.3276	31.3826	0.2682
0.3	13.4892	4.33	0.0722	0.321	31.7738	0.2689
0.315	13.4222	4.1834	0.0733	0.3117	32.3357	0.2698
0.325	13.3768	4.0921	0.074	0.3059	32.7031	0.2703
0.34	13.3212	3.963	0.0749	0.2975	33.2221	0.2711
0.355	13.2585	3.8394	0.0758	0.2896	33.7029	0.2719
0.37	13.2249	3.7433	0.077	0.283	34.3067	0.2723
0.385	13.1782	3.6414	0.078	0.2763	34.8031	0.2729
0.405	13.1222	3.5154	0.0792	0.2679	35.4384	0.2737
0.42	13.0854	3.4305	0.0801	0.2622	35.9265	0.2741
0.44	13.0347	3.3246	0.0813	0.2551	36.5629	0.2748
0.455	13.0028	3.2536	0.0823	0.2502	37.0575	0.2752
0.475	12.9592	3.163	0.0835	0.2441	37.6862	0.2758

0.495	12.9222	3.0789	0.0847	0.2383	38.2957	0.2763
0.52	12.8798	2.9828	0.0862	0.2316	39.0541	0.2768
0.54	12.8489	2.9136	0.0875	0.2268	39.6731	0.2772
0.565	12.8144	2.8332	0.089	0.2211	40.431	0.2777
0.585	12.79	2.7734	0.0902	0.2168	41.0269	0.278
0.61	12.7608	2.7062	0.0918	0.2121	41.801	0.2784
0.64	12.7308	2.6359	0.0938	0.2071	42.7799	0.2788
0.665	12.7041	2.5821	0.0955	0.2032	43.5963	0.2791
0.695	12.6716	2.5229	0.0975	0.1991	44.5857	0.2796
0.725	12.6464	2.4672	0.0995	0.1951	45.5366	0.2799
0.755	12.6112	2.4257	0.1018	0.1923	46.6944	0.2803
0.785	12.6057	2.3841	0.1041	0.1891	47.7353	0.2804
0.82	12.5691	2.3558	0.1074	0.1874	49.3465	0.2808
0.855	12.5212	2.3227	0.1104	0.1855	50.8325	0.2814
0.895	12.4709	2.2697	0.113	0.182	52.1093	0.282
0.93	12.44	2.2233	0.115	0.1787	53.1126	0.2824
0.97	12.4146	2.1817	0.1177	0.1757	54.4231	0.2827
1.015	12.3818	2.1392	0.1207	0.1728	55.9196	0.2831
1.055	12.3551	2.1045	0.1235	0.1703	57.2485	0.2835
1.1	12.3292	2.0694	0.1266	0.1678	58.7637	0.2838
1.15	12.2997	2.0368	0.1302	0.1656	60.5438	0.2842
1.195	12.2735	2.009	0.1335	0.1637	62.1255	0.2845
1.25	12.2452	1.9765	0.1374	0.1614	64.0139	0.2848
1.3	12.2219	1.9486	0.1409	0.1594	65.7027	0.2851
1.36	12.1959	1.9161	0.1449	0.1571	67.6663	0.2855
1.415	12.1787	1.889	0.1486	0.1551	69.4617	0.2857
1.475	12.1624	1.864	0.1529	0.1533	71.5002	0.2859
1.54	12.15	1.8417	0.1577	0.1516	73.8022	0.2861
1.605	12.1394	1.8255	0.1629	0.1504	76.2752	0.2862
1.675	12.1325	1.8136	0.1689	0.1495	79.1066	0.2863
1.745	12.1302	1.8163	0.1762	0.1497	82.5436	0.2863
1.82	12.1101	1.8272	0.1849	0.1509	86.6786	0.2866
1.9	12.0854	1.8346	0.1938	0.1518	90.9409	0.2868
1.98	12.0596	1.8403	0.2026	0.1526	95.165	0.2871
2.065	12.0339	1.8436	0.2117	0.1532	99.5314	0.2874
2.155	12.0082	1.8496	0.2216	0.154	104.3171	0.2877
2.25	11.9843	1.8537	0.2319	0.1547	109.2653	0.288
2.345	11.9633	1.861	0.2427	0.1556	114.42	0.2883
2.445	11.944	1.8702	0.2543	0.1566	119.9828	0.2885
2.55	11.9243	1.887	0.2676	0.1582	126.3526	0.2887
2.66	11.9026	1.9067	0.282	0.1602	133.2948	0.2889
2.775	11.874	1.9303	0.2979	0.1626	140.9333	0.2893
2.89	11.8457	1.9531	0.3139	0.1649	148.67	0.2896
3.015	11.8117	1.9725	0.3307	0.167	156.8505	0.29
3.145	11.7782	1.9877	0.3476	0.1688	165.0953	0.2904
3.28	11.756	1.9977	0.3643	0.1699	173.2039	0.2906
3.42	11.751	2.0131	0.3828	0.1713	182.019	0.2907
3.57	11.7496	2.0533	0.4076	0.1748	193.7793	0.2906
3.72	11.7342	2.111	0.4367	0.1799	207.6867	0.2908
3.88	11.7008	2.1685	0.4679	0.1853	222.7845	0.2911
4.045	11.6646	2.2189	0.4991	0.1902	237.9709	0.2915

SB65E10.5N , File: 3SP61557  
20 deg C, Mv = 28.5%, 1.350 g/cc (dry)

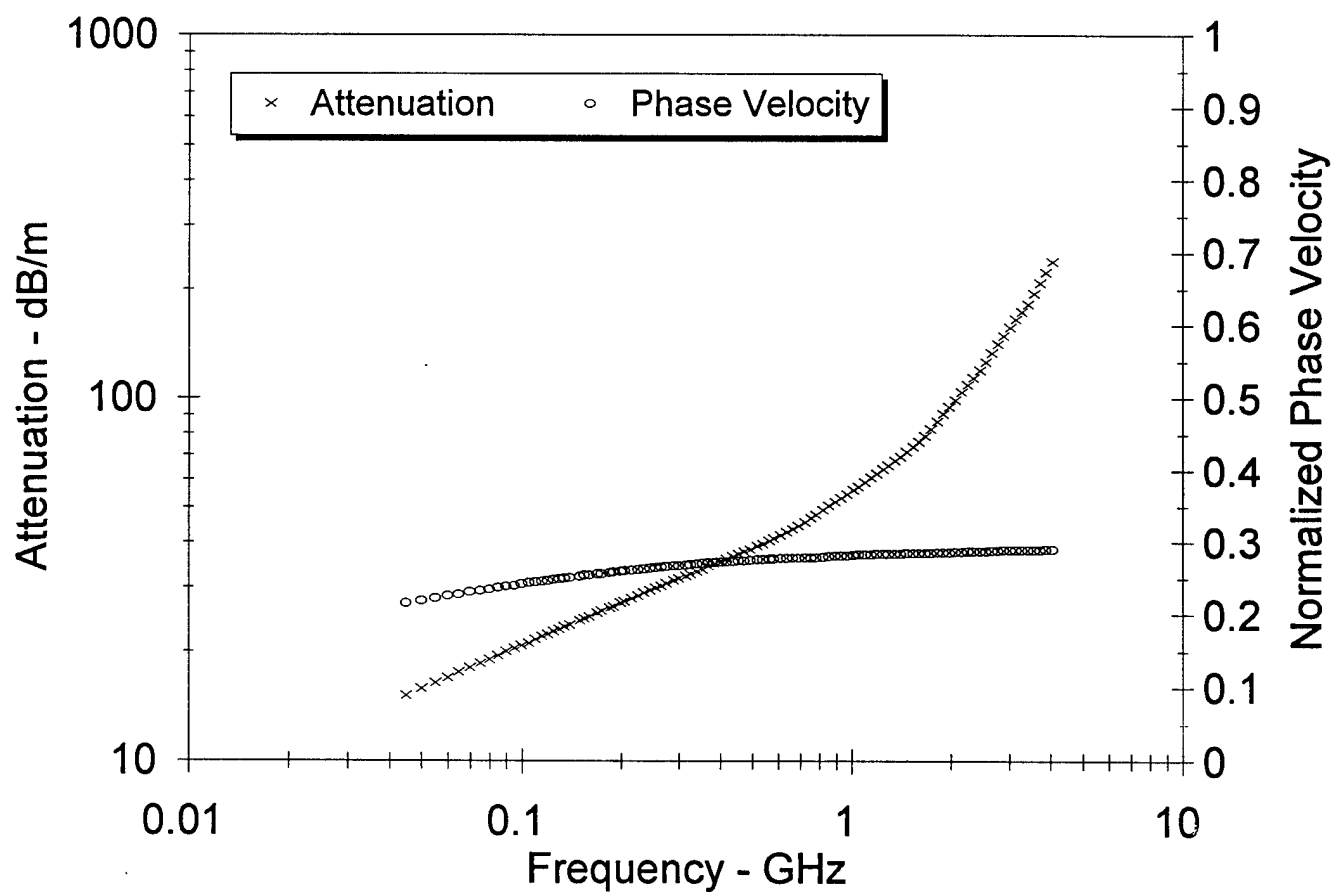


SB65E10.5N , File: 3SP61557  
20 deg C, Mv = 28.5%, 1.350 g/cc (dry)





SB65E10.5N , File: 3SP61557  
20 deg C, Mv = 28.5%, 1.350 g/cc (dry)



3SP61609  
TC52.5E85.5N

4.9

3

15

20

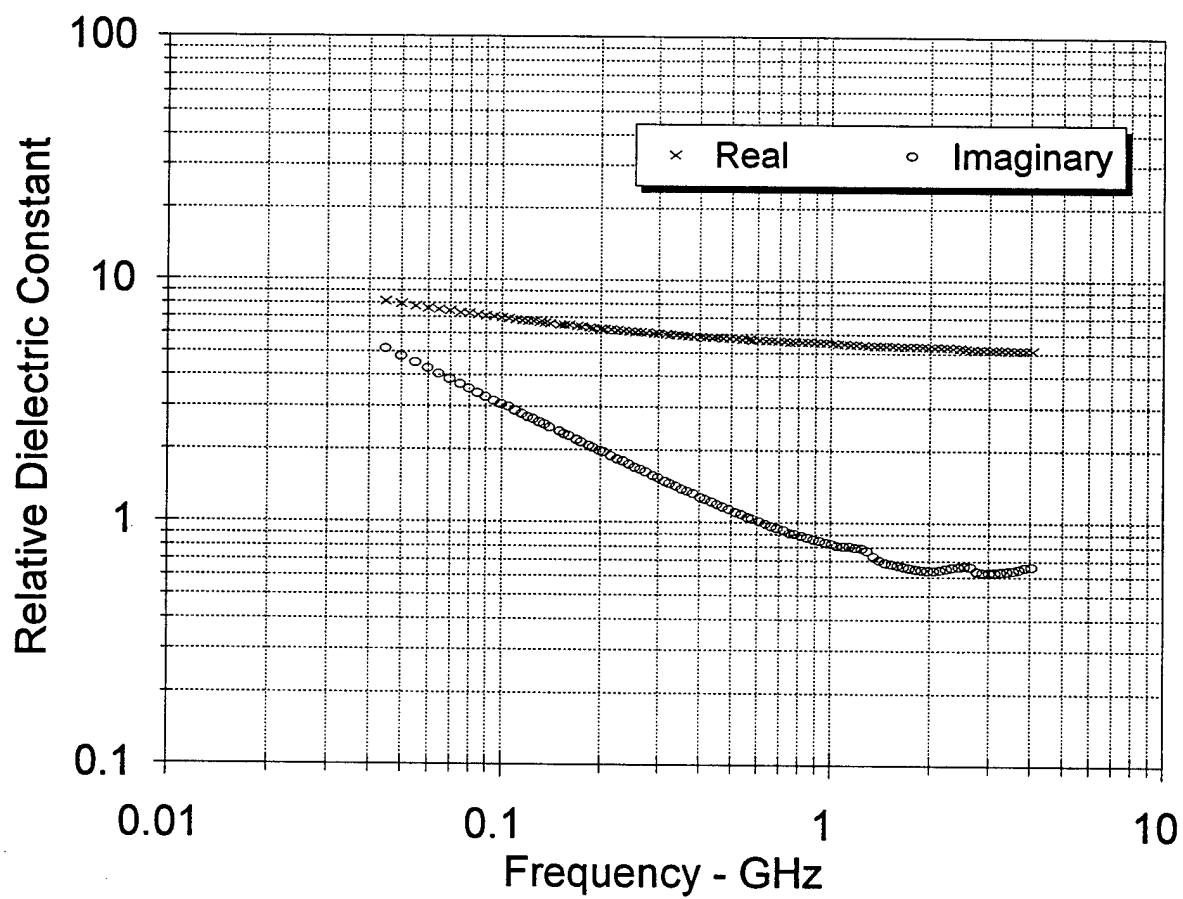
1.33

TC52.5E85.5N , File: 3SP61609  
20 deg C, Mv = 15.0%, 1.330 g/cc (dry)

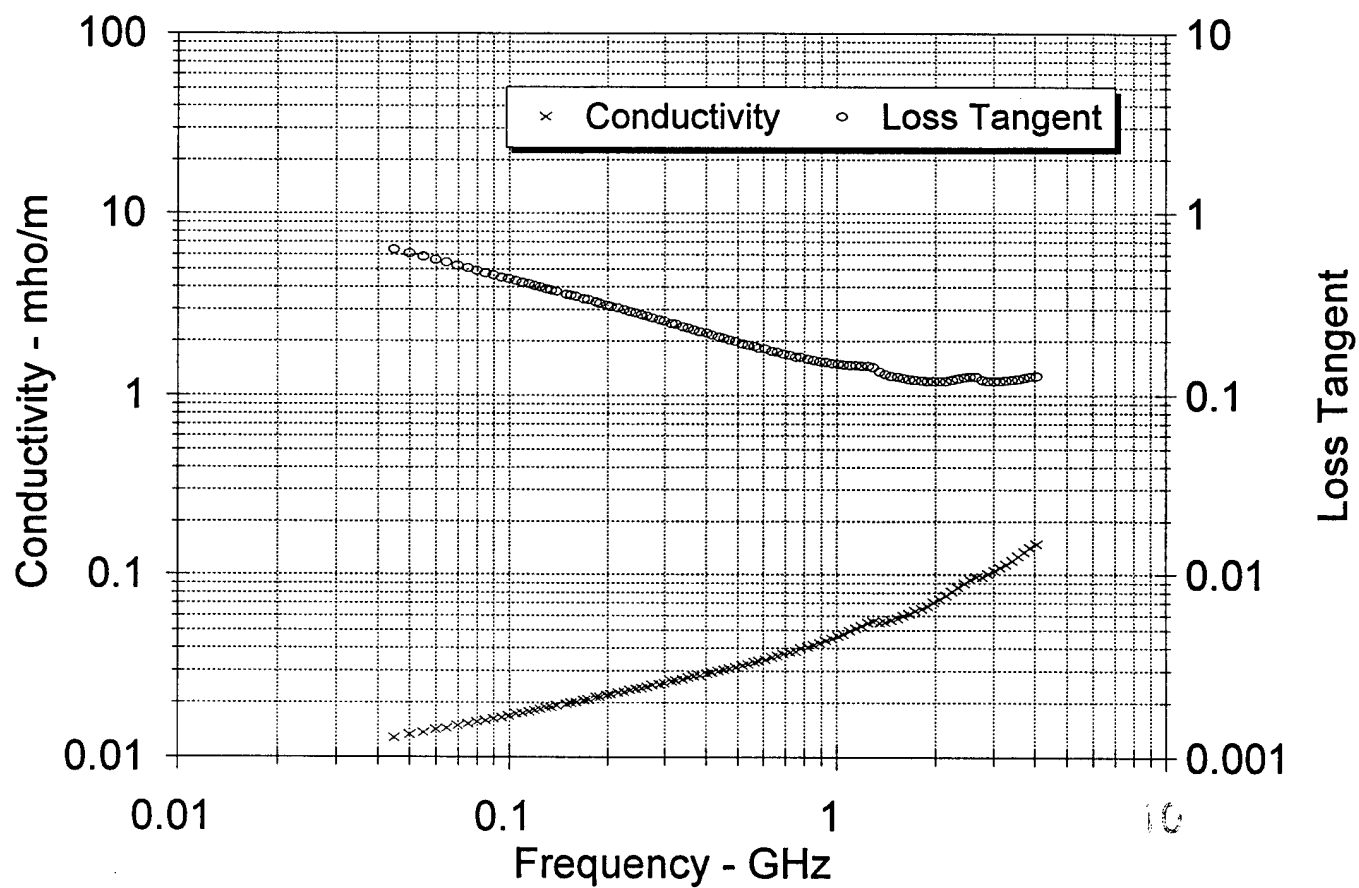
0.045	8.0546	5.1336	0.0128	0.6373	7.082	0.337
0.05	7.8917	4.7912	0.0133	0.6071	7.4467	0.3418
0.055	7.7215	4.4878	0.0137	0.5812	7.7807	0.3466
0.06	7.6044	4.2614	0.0142	0.5604	8.141	0.3501
0.065	7.4804	4.0251	0.0145	0.5381	8.4202	0.3538
0.07	7.3777	3.8353	0.0149	0.5199	8.7178	0.357
0.075	7.2851	3.6666	0.0153	0.5033	9.0022	0.3599
0.08	7.2032	3.5157	0.0156	0.4881	9.2741	0.3625
0.085	7.1261	3.3815	0.016	0.4745	9.542	0.365
0.09	7.055	3.2611	0.0163	0.4622	9.8046	0.3673
0.095	6.989	3.1395	0.0166	0.4492	10.0234	0.3695
0.1	6.9178	3.0409	0.0169	0.4396	10.2815	0.3717
0.105	6.8758	2.9618	0.0173	0.4308	10.5559	0.3732
0.11	6.8187	2.8681	0.0175	0.4206	10.7637	0.3751
0.115	6.7722	2.7882	0.0178	0.4117	10.9857	0.3767
0.12	6.7251	2.7057	0.0181	0.4023	11.1726	0.3783
0.125	6.6839	2.6413	0.0184	0.3952	11.4035	0.3797
0.13	6.6407	2.5801	0.0187	0.3885	11.6292	0.3812
0.135	6.6049	2.5173	0.0189	0.3811	11.8222	0.3825
0.14	6.5728	2.4635	0.0192	0.3748	12.0337	0.3836
0.15	6.5071	2.3565	0.0197	0.3621	12.4086	0.3859
0.155	6.4777	2.3115	0.0199	0.3568	12.611	0.387
0.16	6.4501	2.2637	0.0201	0.351	12.7823	0.388
0.17	6.3959	2.1808	0.0206	0.341	13.1492	0.3899
0.175	6.369	2.1401	0.0208	0.336	13.3167	0.3909
0.185	6.3232	2.0697	0.0213	0.3273	13.6728	0.3926
0.19	6.2971	2.0353	0.0215	0.3232	13.8418	0.3935
0.2	6.2625	1.9719	0.0219	0.3149	14.1644	0.3949
0.205	6.2387	1.9413	0.0221	0.3112	14.324	0.3957
0.215	6.2012	1.886	0.0225	0.3041	14.6467	0.3971
0.225	6.1677	1.8323	0.0229	0.2971	14.9391	0.3984
0.235	6.1351	1.7887	0.0234	0.2915	15.2776	0.3996
0.245	6.1059	1.7418	0.0237	0.2853	15.5537	0.4007
0.255	6.0833	1.6953	0.024	0.2787	15.7926	0.4016
0.265	6.0538	1.6562	0.0244	0.2736	16.0784	0.4027
0.275	6.0312	1.6192	0.0248	0.2685	16.3481	0.4036
0.29	5.9959	1.5656	0.0252	0.2611	16.726	0.405
0.3	5.9741	1.533	0.0256	0.2566	16.978	0.4059
0.315	5.9478	1.4873	0.0261	0.2501	17.3399	0.4069
0.325	5.9264	1.4582	0.0264	0.2461	17.5768	0.4077
0.34	5.9011	1.4192	0.0268	0.2405	17.9396	0.4088
0.355	5.8799	1.3846	0.0273	0.2355	18.3133	0.4096
0.37	5.8583	1.3508	0.0278	0.2306	18.6597	0.4105
0.385	5.8355	1.3174	0.0282	0.2258	18.9792	0.4114
0.405	5.8112	1.28	0.0288	0.2203	19.4438	0.4124
0.42	5.7936	1.2522	0.0292	0.2161	19.7605	0.4131
0.44	5.7696	1.2185	0.0298	0.2112	20.1921	0.414
0.455	5.7556	1.1945	0.0302	0.2075	20.4969	0.4146
0.475	5.7355	1.1638	0.0307	0.2029	20.8885	0.4154

0.495	5.7197	1.1374	0.0313	0.1988	21.3082	0.4161
0.52	5.6996	1.1054	0.032	0.1939	21.7988	0.4169
0.54	5.6841	1.0825	0.0325	0.1904	22.2023	0.4176
0.565	5.6674	1.0568	0.0332	0.1865	22.7151	0.4183
0.585	5.6538	1.0377	0.0338	0.1835	23.1264	0.4188
0.61	5.6377	1.0156	0.0344	0.1802	23.6383	0.4195
0.64	5.6221	0.9907	0.0353	0.1762	24.231	0.4201
0.665	5.6086	0.9725	0.036	0.1734	24.7458	0.4207
0.695	5.5931	0.9511	0.0368	0.17	25.3325	0.4213
0.725	5.5806	0.933	0.0376	0.1672	25.9561	0.4218
0.755	5.5662	0.9075	0.0381	0.163	26.3295	0.4225
0.785	5.5525	0.9018	0.0394	0.1624	27.2376	0.423
0.82	5.536	0.8848	0.0403	0.1598	27.9592	0.4237
0.855	5.5243	0.8686	0.0413	0.1572	28.6526	0.4242
0.895	5.5112	0.8523	0.0424	0.1546	29.4668	0.4247
0.93	5.4997	0.8415	0.0435	0.153	30.2654	0.4252
0.97	5.4852	0.8311	0.0448	0.1515	31.2187	0.4258
1.015	5.4667	0.818	0.0462	0.1496	32.2121	0.4265
1.055	5.4546	0.8065	0.0473	0.1479	33.0489	0.427
1.1	5.4461	0.801	0.049	0.1471	34.2486	0.4274
1.15	5.4255	0.7945	0.0508	0.1464	35.583	0.4282
1.195	5.407	0.7885	0.0524	0.1458	36.7628	0.4289
1.25	5.3812	0.7837	0.0545	0.1456	38.3102	0.4299
1.3	5.3439	0.7699	0.0557	0.1441	39.281	0.4315
1.36	5.3189	0.7258	0.0549	0.1364	38.8379	0.4326
1.415	5.3213	0.6987	0.055	0.1313	38.8983	0.4326
1.475	5.3224	0.6844	0.0561	0.1286	39.7219	0.4326
1.54	5.3187	0.6744	0.0577	0.1268	40.8776	0.4327
1.605	5.3126	0.6661	0.0594	0.1254	42.104	0.433
1.675	5.3067	0.6577	0.0613	0.1239	43.4132	0.4333
1.745	5.3005	0.6504	0.0631	0.1227	44.7572	0.4335
1.82	5.2961	0.6439	0.0652	0.1216	46.2333	0.4337
1.9	5.2905	0.6397	0.0676	0.1209	47.979	0.434
1.98	5.2856	0.6373	0.0702	0.1206	49.8301	0.4342
2.065	5.2803	0.6369	0.0731	0.1206	51.9655	0.4344
2.155	5.274	0.6398	0.0767	0.1213	54.5095	0.4346
2.25	5.2668	0.6462	0.0808	0.1227	57.5145	0.4349
2.345	5.2519	0.6528	0.0851	0.1243	60.6401	0.4355
2.445	5.2364	0.6588	0.0896	0.1258	63.9048	0.4361
2.55	5.2134	0.6635	0.0941	0.1273	67.2688	0.4371
2.66	5.1812	0.6561	0.0971	0.1266	69.605	0.4384
2.775	5.1705	0.6322	0.0975	0.1223	70.0439	0.439
2.89	5.1717	0.6246	0.1004	0.1208	72.0691	0.4389
3.015	5.1677	0.6245	0.1047	0.1209	75.2047	0.4391
3.145	5.1624	0.6249	0.1093	0.121	78.5348	0.4393
3.28	5.1562	0.6272	0.1144	0.1216	82.2546	0.4396
3.42	5.1497	0.6311	0.12	0.1226	86.3569	0.4398
3.57	5.143	0.6371	0.1265	0.1239	91.0471	0.4401
3.72	5.1344	0.6448	0.1334	0.1256	96.1027	0.4405
3.88	5.1211	0.6541	0.1411	0.1277	101.8078	0.441
4.045	5.1045	0.6576	0.1479	0.1288	106.8697	0.4417

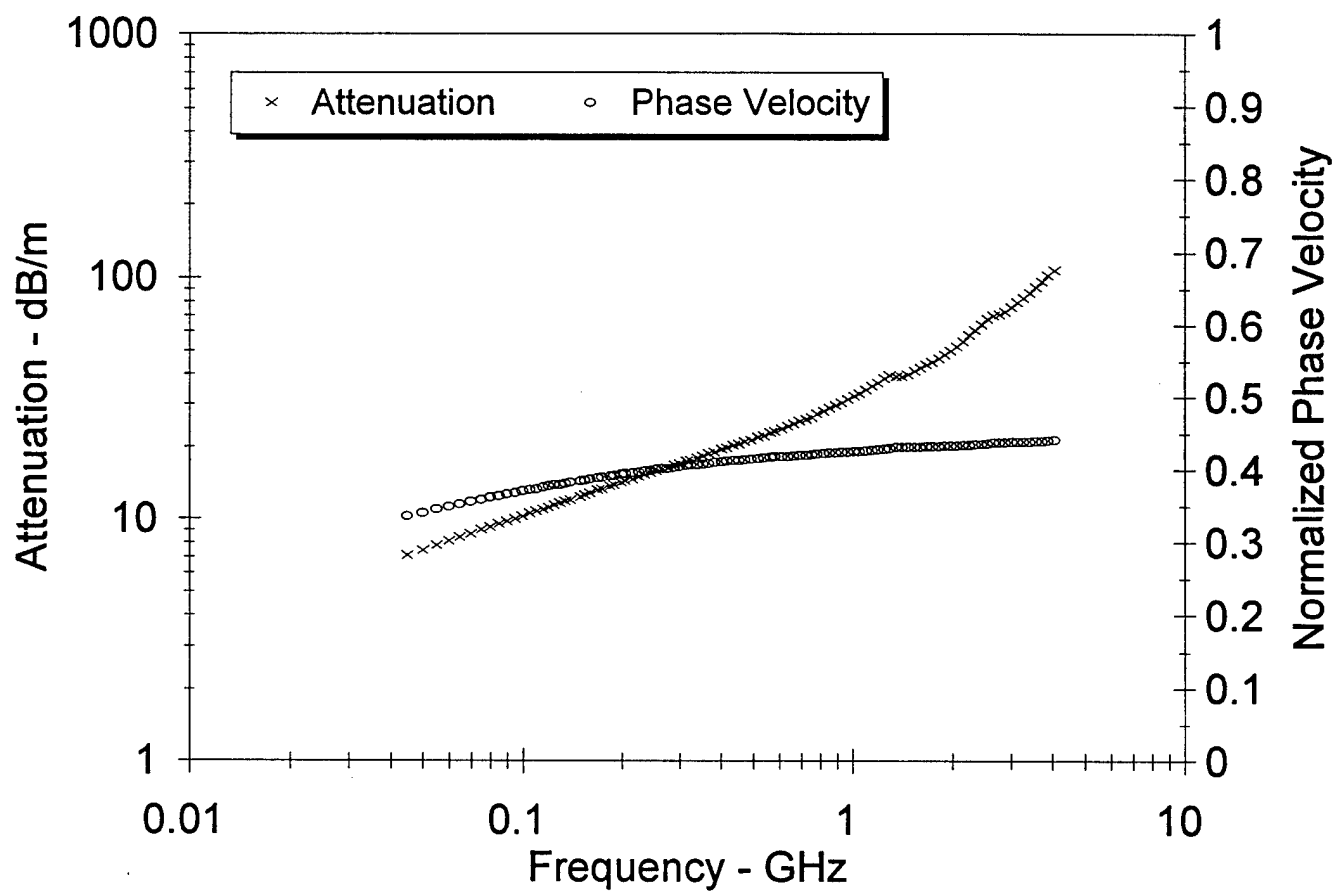
TC52.5E85.5N , File: 3SP61609  
20 deg C, Mv = 15.0%, 1.330 g/cc (dry)



TC52.5E85.5N , File: 3SP61609  
20 deg C, Mv = 15.0%, 1.330 g/cc (dry)



TC52.5E85.5N , File: 3SP61609  
20 deg C, Mv = 15.0%, 1.330 g/cc (dry)



3SP61623  
SB52.5E85.5N

4.9

4

25.6

20

1.38

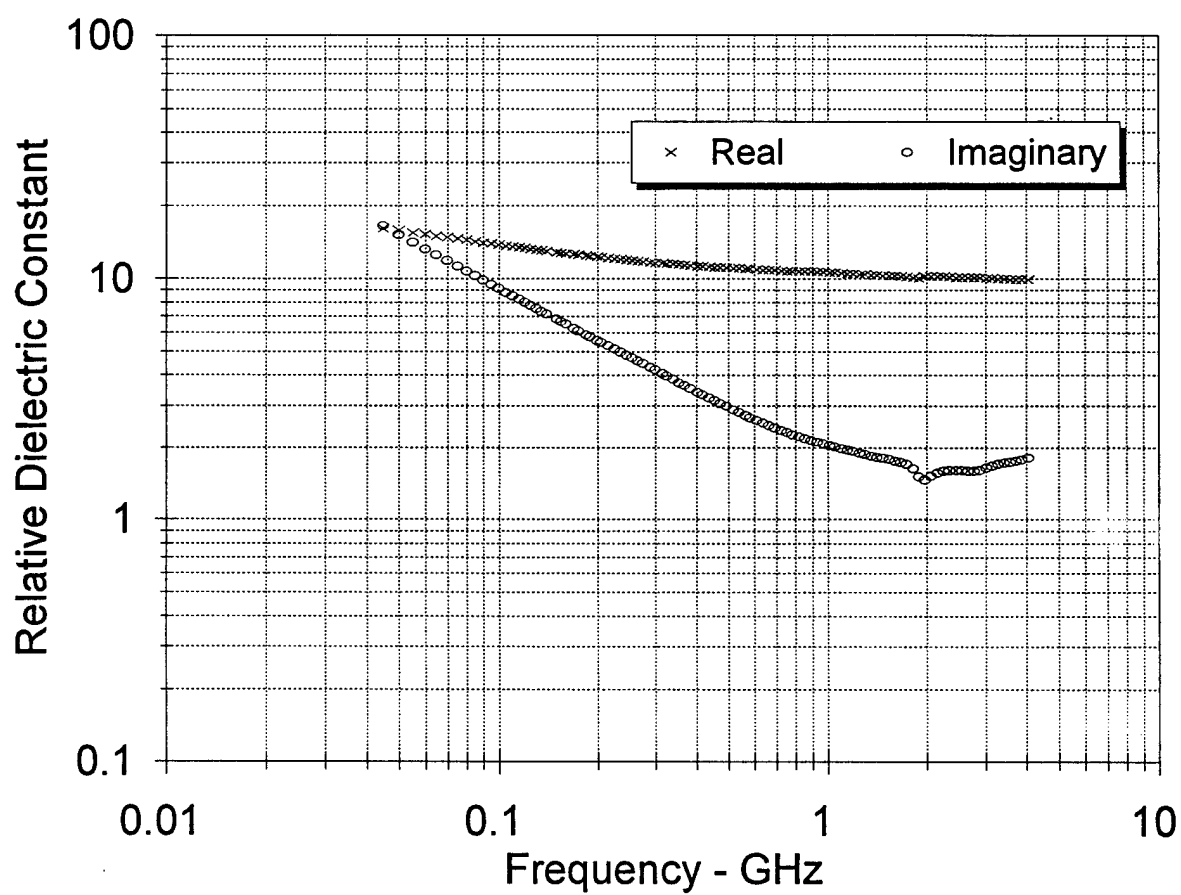
SB52.5E85.5N , File: 3SP61623  
20 deg C, Mv = 25.6%, 1.380 g/cc (dry)

0.045	16.0987	16.5407	0.0414	1.0275	15.2964	0.2259
0.05	15.8053	15.2515	0.0424	0.965	15.9614	0.2301
0.055	15.4848	14.1733	0.0433	0.9153	16.6029	0.2342
0.06	15.2618	13.25	0.0442	0.8682	17.1703	0.2374
0.065	15.0037	12.5185	0.0452	0.8344	17.8089	0.2406
0.07	14.7964	11.8405	0.0461	0.8002	18.353	0.2434
0.075	14.5915	11.2445	0.0469	0.7706	18.8807	0.2461
0.08	14.4157	10.7269	0.0477	0.7441	19.3978	0.2485
0.085	14.24	10.2688	0.0485	0.7211	19.9118	0.2508
0.09	14.1	9.8548	0.0493	0.6989	20.392	0.2528
0.095	13.9474	9.4457	0.0499	0.6772	20.8015	0.2549
0.1	13.8028	9.0934	0.0506	0.6588	21.2391	0.2568
0.105	13.652	8.7518	0.0511	0.6411	21.6292	0.2588
0.11	13.5636	8.4978	0.052	0.6265	22.1124	0.2601
0.115	13.4543	8.2362	0.0527	0.6122	22.5358	0.2616
0.12	13.3574	7.9776	0.0532	0.5972	22.9005	0.263
0.125	13.2585	7.7465	0.0538	0.5843	23.2852	0.2644
0.13	13.1574	7.5266	0.0544	0.572	23.6531	0.2658
0.135	13.0731	7.3236	0.055	0.5602	24.01	0.267
0.14	12.9982	7.1326	0.0555	0.5487	24.3509	0.2681
0.15	12.8513	6.7953	0.0567	0.5288	25.0538	0.2702
0.155	12.7755	6.6354	0.0572	0.5194	25.3805	0.2713
0.16	12.7156	6.4848	0.0577	0.51	25.6908	0.2722
0.17	12.5899	6.2097	0.0587	0.4932	26.3153	0.2741
0.175	12.5349	6.0818	0.0592	0.4852	26.6117	0.2749
0.185	12.4271	5.8502	0.0602	0.4708	27.2184	0.2765
0.19	12.3785	5.745	0.0607	0.4641	27.5235	0.2772
0.2	12.2903	5.547	0.0617	0.4513	28.1095	0.2786
0.205	12.2386	5.448	0.0621	0.4451	28.3745	0.2793
0.215	12.1629	5.2767	0.0631	0.4338	28.944	0.2805
0.225	12.0799	5.1118	0.064	0.4232	29.4741	0.2817
0.235	12.0114	4.9723	0.065	0.414	30.0546	0.2828
0.245	11.9391	4.8247	0.0657	0.4041	30.5227	0.2839
0.255	11.8787	4.6978	0.0666	0.3955	31.0358	0.2848
0.265	11.8157	4.5732	0.0674	0.387	31.5042	0.2858
0.275	11.76	4.459	0.0682	0.3792	31.9737	0.2867
0.29	11.6798	4.2967	0.0693	0.3679	32.633	0.2879
0.3	11.632	4.1944	0.07	0.3606	33.0424	0.2887
0.315	11.5706	4.0562	0.071	0.3506	33.6674	0.2897
0.325	11.5236	3.9601	0.0716	0.3436	34.0008	0.2904
0.34	11.4683	3.8338	0.0725	0.3343	34.5442	0.2914
0.355	11.4069	3.7125	0.0733	0.3255	35.0442	0.2923
0.37	11.3739	3.6177	0.0744	0.3181	35.6641	0.2929
0.385	11.3271	3.517	0.0753	0.3105	36.171	0.2937
0.405	11.2725	3.393	0.0764	0.301	36.8226	0.2946
0.42	11.236	3.3082	0.0773	0.2944	37.3097	0.2952
0.44	11.1861	3.2037	0.0784	0.2864	37.9559	0.296
0.455	11.1556	3.1323	0.0793	0.2808	38.443	0.2965
0.475	11.112	3.0444	0.0804	0.274	39.1001	0.2973

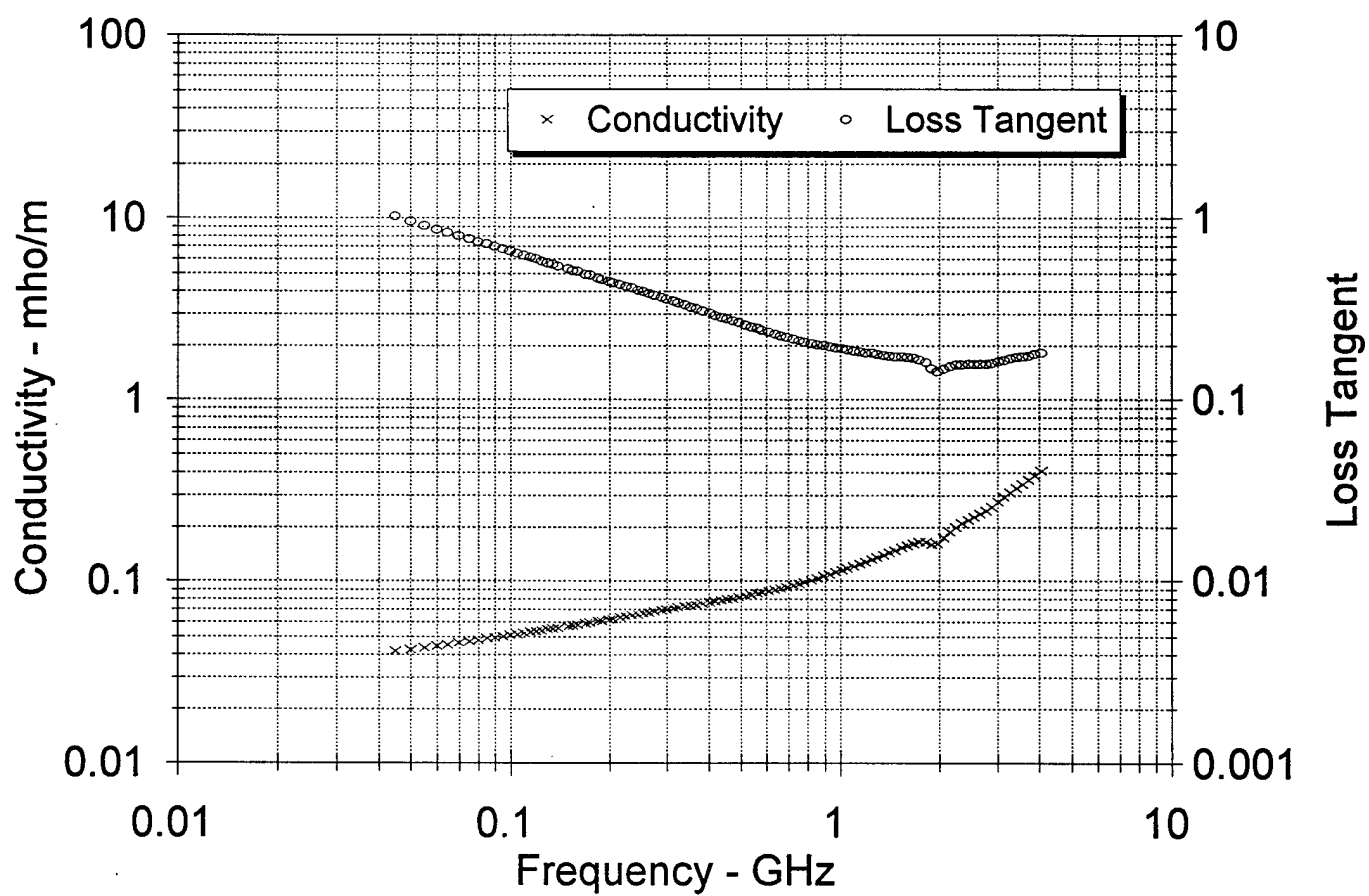
0.495	11.0756	2.9614	0.0815	0.2674	39.7167	0.2979
0.52	11.0342	2.8654	0.0829	0.2597	40.4662	0.2986
0.54	11.0034	2.7975	0.084	0.2542	41.098	0.2991
0.565	10.9692	2.7193	0.0854	0.2479	41.8793	0.2997
0.585	10.9442	2.6619	0.0866	0.2432	42.5058	0.3001
0.61	10.9141	2.5942	0.088	0.2377	43.2692	0.3006
0.64	10.8835	2.5225	0.0898	0.2318	44.2187	0.3011
0.665	10.8567	2.4649	0.0911	0.227	44.964	0.3016
0.695	10.8295	2.4038	0.0929	0.222	45.8974	0.302
0.725	10.8077	2.3509	0.0948	0.2175	46.8848	0.3024
0.755	10.7718	2.3049	0.0968	0.214	47.9564	0.303
0.785	10.7577	2.2554	0.0984	0.2097	48.834	0.3032
0.82	10.7297	2.2117	0.1008	0.2061	50.0979	0.3037
0.855	10.7051	2.1739	0.1034	0.2031	51.4091	0.3041
0.895	10.673	2.1354	0.1063	0.2001	52.9493	0.3046
0.93	10.6476	2.1026	0.1087	0.1975	54.2463	0.305
0.97	10.6204	2.0685	0.1116	0.1948	55.7412	0.3054
1.015	10.5869	2.0338	0.1148	0.1921	57.4468	0.3059
1.055	10.5569	2.0047	0.1176	0.1899	58.9438	0.3064
1.1	10.5303	1.9767	0.1209	0.1877	60.6845	0.3068
1.15	10.4944	1.9453	0.1244	0.1854	62.547	0.3074
1.195	10.4643	1.9217	0.1277	0.1836	64.3042	0.3078
1.25	10.4288	1.8928	0.1316	0.1815	66.3695	0.3084
1.3	10.4014	1.8662	0.1349	0.1794	68.1495	0.3088
1.36	10.3681	1.8411	0.1392	0.1776	70.4558	0.3094
1.415	10.3372	1.8176	0.143	0.1758	72.4834	0.3098
1.475	10.3083	1.7959	0.1473	0.1742	74.7662	0.3103
1.54	10.2741	1.7786	0.1523	0.1731	77.441	0.3108
1.605	10.2345	1.7582	0.1569	0.1718	79.9398	0.3114
1.675	10.1881	1.7367	0.1618	0.1705	82.5987	0.3122
1.745	10.129	1.7014	0.1651	0.168	84.5556	0.3131
1.82	10.0712	1.6324	0.1652	0.1621	84.8772	0.3141
1.9	10.0692	1.5084	0.1594	0.1498	81.9255	0.3143
1.98	10.1749	1.4628	0.1611	0.1438	82.377	0.3127
2.065	10.2224	1.5127	0.1737	0.148	88.6269	0.3119
2.155	10.2122	1.5614	0.1871	0.1529	95.4947	0.312
2.25	10.1828	1.588	0.1987	0.1559	101.5364	0.3124
2.345	10.1502	1.6003	0.2087	0.1577	106.8113	0.3129
2.445	10.1196	1.6017	0.2178	0.1583	111.6277	0.3134
2.55	10.0941	1.5985	0.2267	0.1584	116.3363	0.3138
2.66	10.0773	1.5931	0.2356	0.1581	121.0438	0.314
2.775	10.0712	1.5921	0.2457	0.1581	126.24	0.3141
2.89	10.0734	1.6074	0.2583	0.1596	132.7115	0.3141
3.015	10.0616	1.639	0.2748	0.1629	141.2335	0.3142
3.145	10.0373	1.6711	0.2922	0.1665	150.3727	0.3146
3.28	10.0071	1.6956	0.3093	0.1694	159.3482	0.315
3.42	9.977	1.7152	0.3262	0.1719	168.3084	0.3154
3.57	9.9489	1.734	0.3442	0.1743	177.8437	0.3159
3.72	9.9263	1.7514	0.3623	0.1764	187.3755	0.3162
3.88	9.9094	1.7745	0.3829	0.1791	198.1601	0.3164
4.045	9.8909	1.8068	0.4064	0.1827	210.5114	0.3167



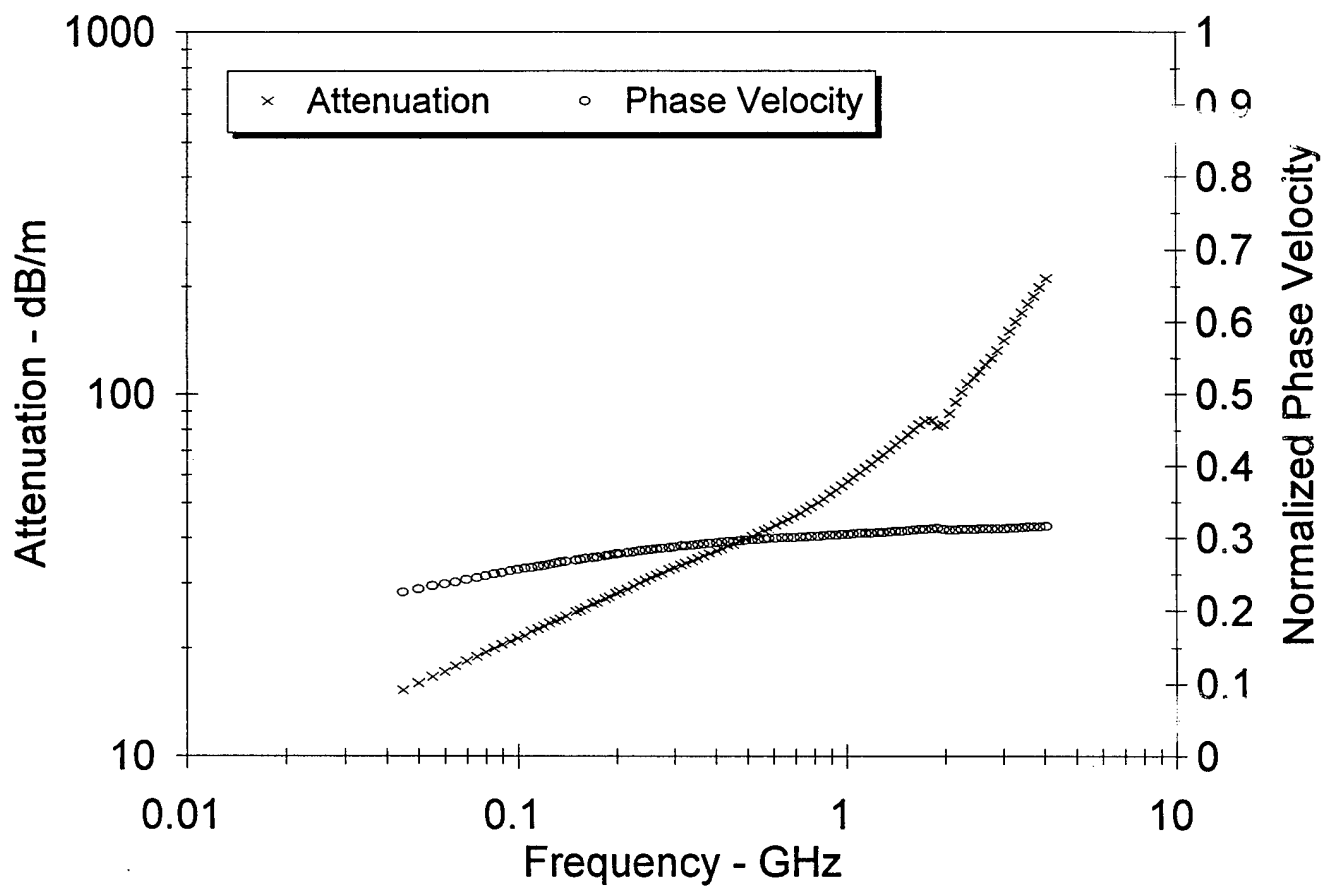
SB52.5E85.5N , File: 3SP61623  
20 deg C, Mv = 25.6%, 1.380 g/cc (dry)



SB52.5E85.5N , File: 3SP61623  
20 deg C, Mv = 25.6%, 1.380 g/cc (dry)



SB52.5E85.5N , File: 3SP61623  
20 deg C, Mv = 25.6%, 1.380 g/cc (dry)



4SP61341  
SB40E23N

9.7

2

6.2

20

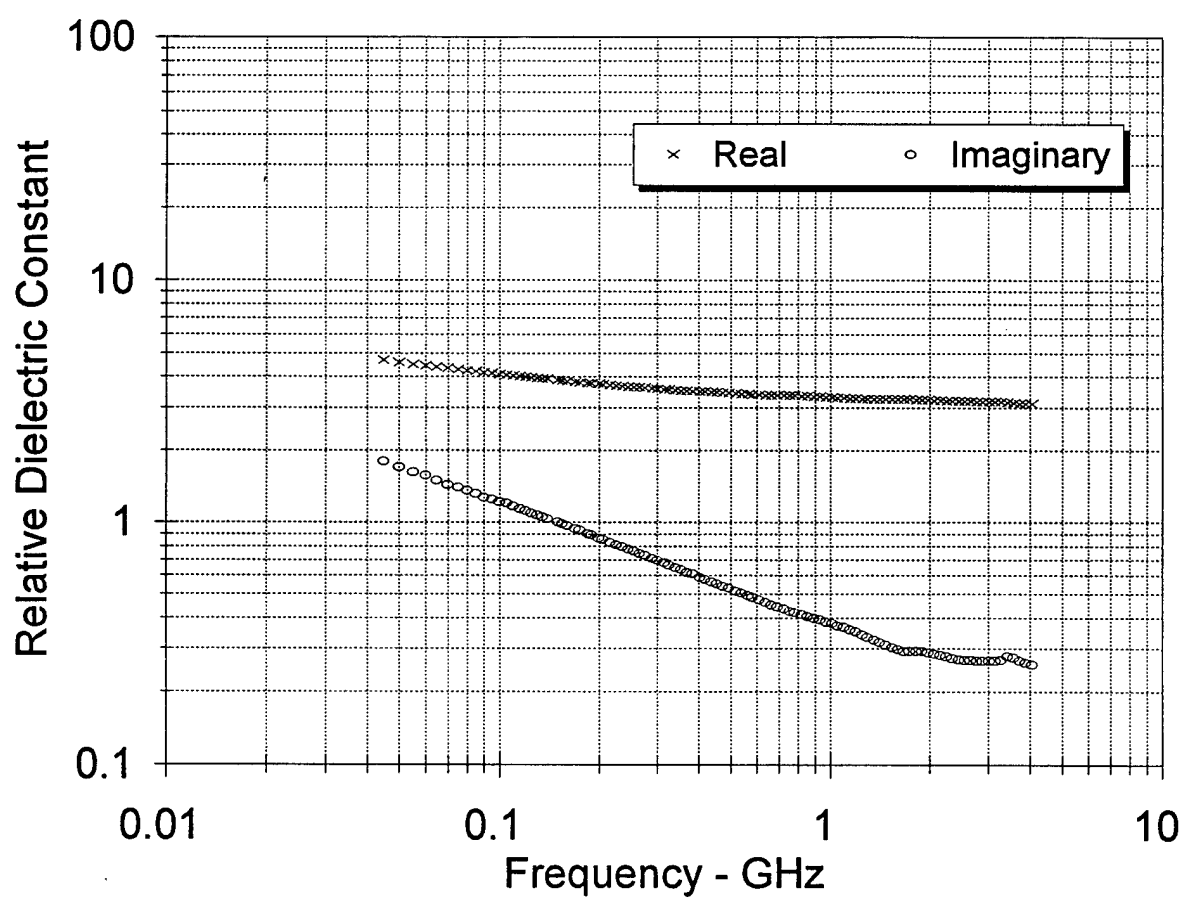
1.18

SB40E23N , File: 4SP61341  
20 deg C, Mv = 6.2%, 1.180 g/cc (dry)

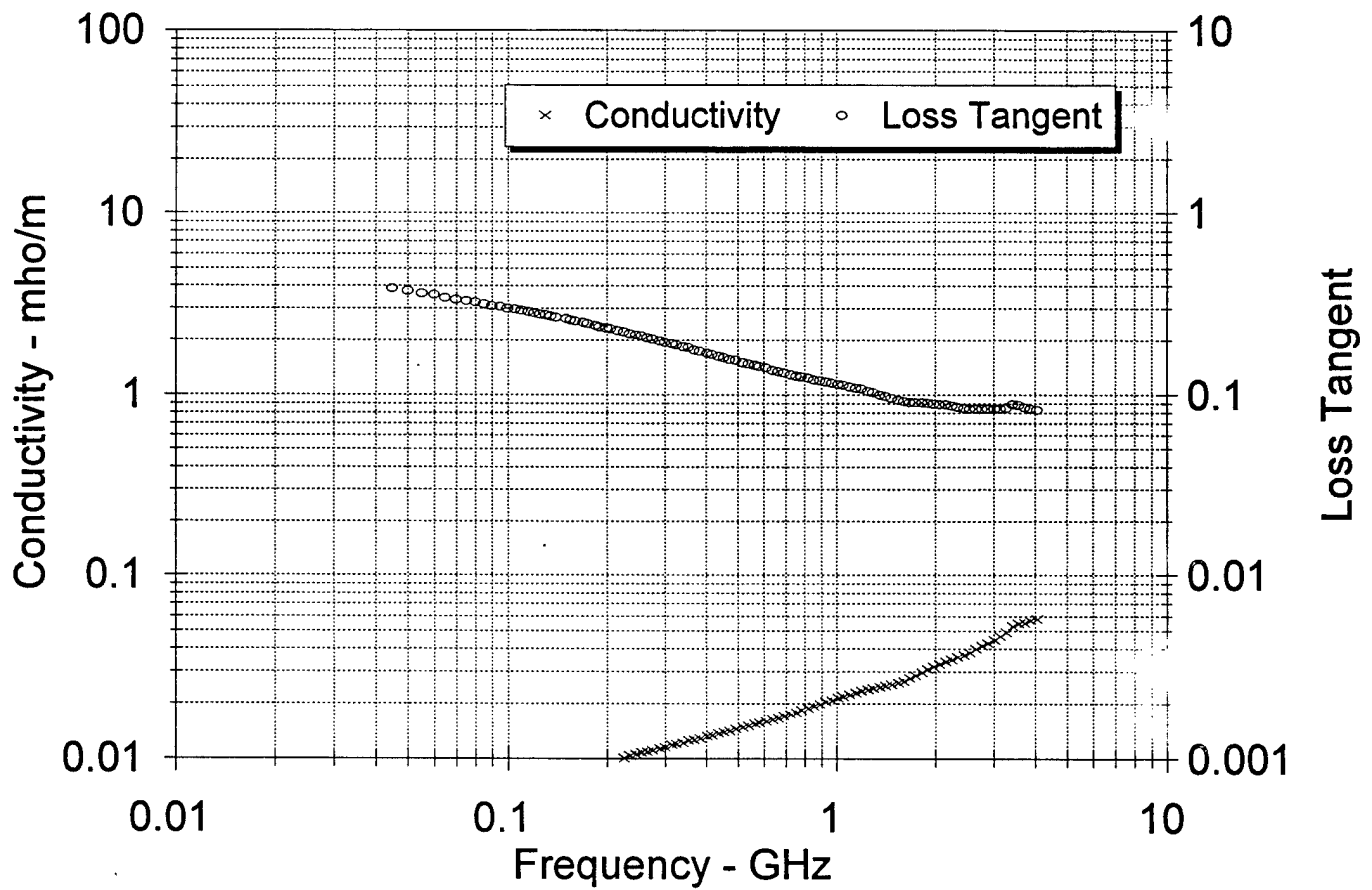
0.045	4.6694	1.7897	0.0045	0.3833	3.3314	0.4548
0.05	4.5807	1.7005	0.0047	0.3712	3.5546	0.4596
0.055	4.501	1.6213	0.005	0.3602	3.7642	0.4641
0.06	4.4413	1.5732	0.0052	0.3542	4.0134	0.4674
0.065	4.3791	1.5021	0.0054	0.343	4.1845	0.4712
0.07	4.3295	1.4425	0.0056	0.3332	4.3556	0.4742
0.075	4.2795	1.4002	0.0058	0.3272	4.5584	0.4772
0.08	4.2379	1.3589	0.006	0.3207	4.7444	0.4798
0.085	4.1946	1.3203	0.0062	0.3148	4.9251	0.4825
0.09	4.1433	1.2777	0.0064	0.3084	5.08	0.4857
0.095	4.1235	1.2538	0.0066	0.3041	5.2762	0.487
0.1	4.0916	1.2214	0.0068	0.2985	5.4335	0.4891
0.105	4.0761	1.2079	0.0071	0.2963	5.6538	0.4901
0.11	4.035	1.17	0.0072	0.29	5.7687	0.4928
0.115	4.0085	1.1454	0.0073	0.2857	5.9254	0.4945
0.12	3.9869	1.1224	0.0075	0.2815	6.077	0.496
0.125	3.9597	1.1007	0.0077	0.278	6.2305	0.4978
0.13	3.9377	1.079	0.0078	0.274	6.371	0.4994
0.135	3.9191	1.0593	0.008	0.2703	6.5126	0.5007
0.14	3.8977	1.0396	0.0081	0.2667	6.6474	0.5021
0.15	3.8609	1.007	0.0084	0.2608	6.9346	0.5047
0.155	3.8442	0.9882	0.0085	0.2571	7.0486	0.5059
0.16	3.8271	0.9729	0.0087	0.2542	7.1807	0.5072
0.17	3.7972	0.9445	0.0089	0.2487	7.4383	0.5093
0.175	3.7824	0.9288	0.009	0.2456	7.546	0.5104
0.185	3.756	0.9022	0.0093	0.2402	7.7782	0.5124
0.19	3.7433	0.8882	0.0094	0.2373	7.8795	0.5133
0.2	3.7175	0.8628	0.0096	0.2321	8.0873	0.5152
0.205	3.71	0.8523	0.0097	0.2297	8.1972	0.5158
0.215	3.6894	0.8315	0.0099	0.2254	8.4132	0.5174
0.225	3.6694	0.8097	0.0101	0.2207	8.5988	0.5189
0.235	3.6521	0.7927	0.0104	0.2171	8.8152	0.5203
0.245	3.6371	0.7747	0.0106	0.213	9.0025	0.5214
0.255	3.6206	0.7595	0.0108	0.2098	9.208	0.5227
0.265	3.6053	0.7434	0.011	0.2062	9.3874	0.5239
0.275	3.5903	0.7285	0.0111	0.2029	9.5686	0.5251
0.29	3.5713	0.7085	0.0114	0.1984	9.8419	0.5266
0.3	3.5585	0.695	0.0116	0.1953	10.0062	0.5276
0.315	3.5424	0.6769	0.0119	0.1911	10.2581	0.5289
0.325	3.531	0.6644	0.012	0.1882	10.4063	0.5299
0.34	3.517	0.6486	0.0123	0.1844	10.6516	0.531
0.355	3.5065	0.6371	0.0126	0.1817	10.9417	0.5319
0.37	3.4912	0.6189	0.0127	0.1773	11.1052	0.5331
0.385	3.4808	0.6065	0.013	0.1742	11.3407	0.534
0.405	3.4674	0.5898	0.0133	0.1701	11.6263	0.5351
0.42	3.4589	0.5782	0.0135	0.1672	11.8358	0.5358
0.44	3.4472	0.5634	0.0138	0.1634	12.1034	0.5368
0.455	3.4398	0.5534	0.014	0.1609	12.3087	0.5375
0.475	3.4299	0.541	0.0143	0.1577	12.5811	0.5383

0.495	3.4204	0.5298	0.0146	0.1549	12.8594	0.5391
0.52	3.4091	0.5161	0.0149	0.1514	13.1839	0.5401
0.54	3.4005	0.5063	0.0152	0.1489	13.4473	0.5408
0.565	3.3907	0.4938	0.0155	0.1456	13.7463	0.5416
0.585	3.383	0.485	0.0158	0.1434	13.9957	0.5423
0.61	3.3745	0.4741	0.0161	0.1405	14.286	0.543
0.64	3.3652	0.4612	0.0164	0.137	14.6012	0.5439
0.665	3.3599	0.4527	0.0167	0.1347	14.9039	0.5443
0.695	3.3528	0.4429	0.0171	0.1321	15.257	0.5449
0.725	3.346	0.4349	0.0175	0.13	15.6457	0.5455
0.755	3.3403	0.4247	0.0178	0.1272	15.9267	0.5461
0.785	3.3316	0.4206	0.0184	0.1263	16.4218	0.5468
0.82	3.3234	0.4128	0.0188	0.1242	16.8551	0.5475
0.855	3.3163	0.4054	0.0193	0.1222	17.2801	0.5481
0.895	3.309	0.3978	0.0198	0.1202	17.7695	0.5487
0.93	3.302	0.392	0.0203	0.1187	18.215	0.5494
0.97	3.292	0.3845	0.0207	0.1168	18.6668	0.5502
1.015	3.2831	0.378	0.0213	0.1151	19.229	0.551
1.055	3.2753	0.3717	0.0218	0.1135	19.6768	0.5517
1.1	3.2685	0.365	0.0223	0.1117	20.1703	0.5523
1.15	3.2598	0.3573	0.0228	0.1096	20.6708	0.553
1.195	3.2514	0.3514	0.0234	0.1081	21.152	0.5538
1.25	3.2415	0.3417	0.0238	0.1054	21.549	0.5547
1.3	3.235	0.3329	0.0241	0.1029	21.857	0.5553
1.36	3.2295	0.3241	0.0245	0.1004	22.2825	0.5558
1.415	3.2251	0.3168	0.0249	0.0982	22.6805	0.5562
1.475	3.2212	0.3098	0.0254	0.0962	23.1305	0.5565
1.54	3.2185	0.3034	0.026	0.0943	23.6603	0.5568
1.605	3.2162	0.2974	0.0265	0.0925	24.1833	0.557
1.675	3.2149	0.293	0.0273	0.0911	24.867	0.5571
1.745	3.213	0.292	0.0283	0.0909	25.8339	0.5573
1.82	3.2087	0.2914	0.0295	0.0908	26.9008	0.5577
1.9	3.2027	0.2901	0.0306	0.0906	27.9838	0.5582
1.98	3.1963	0.2878	0.0317	0.09	28.9643	0.5588
2.065	3.1901	0.2851	0.0327	0.0894	29.957	0.5593
2.155	3.1835	0.2814	0.0337	0.0884	30.8883	0.5599
2.25	3.1787	0.2773	0.0347	0.0872	31.7986	0.5604
2.345	3.1743	0.2729	0.0356	0.086	32.6355	0.5608
2.445	3.1713	0.2692	0.0366	0.0849	33.5882	0.561
2.55	3.1697	0.2672	0.0379	0.0843	34.7771	0.5612
2.66	3.1663	0.2674	0.0396	0.0845	36.3294	0.5615
2.775	3.162	0.2668	0.0412	0.0844	37.8347	0.5618
2.89	3.1573	0.2665	0.0428	0.0844	39.3866	0.5623
3.015	3.1526	0.266	0.0446	0.0844	41.0542	0.5627
3.145	3.1489	0.2655	0.0464	0.0843	42.7653	0.563
3.28	3.1468	0.2676	0.0488	0.0851	44.9733	0.5632
3.42	3.1402	0.2775	0.0528	0.0884	48.6605	0.5638
3.57	3.1193	0.275	0.0546	0.0882	50.51	0.5657
3.72	3.1132	0.2658	0.055	0.0854	50.928	0.5662
3.88	3.1076	0.2619	0.0565	0.0843	52.3795	0.5668
4.045	3.1033	0.2567	0.0577	0.0827	53.5729	0.5672

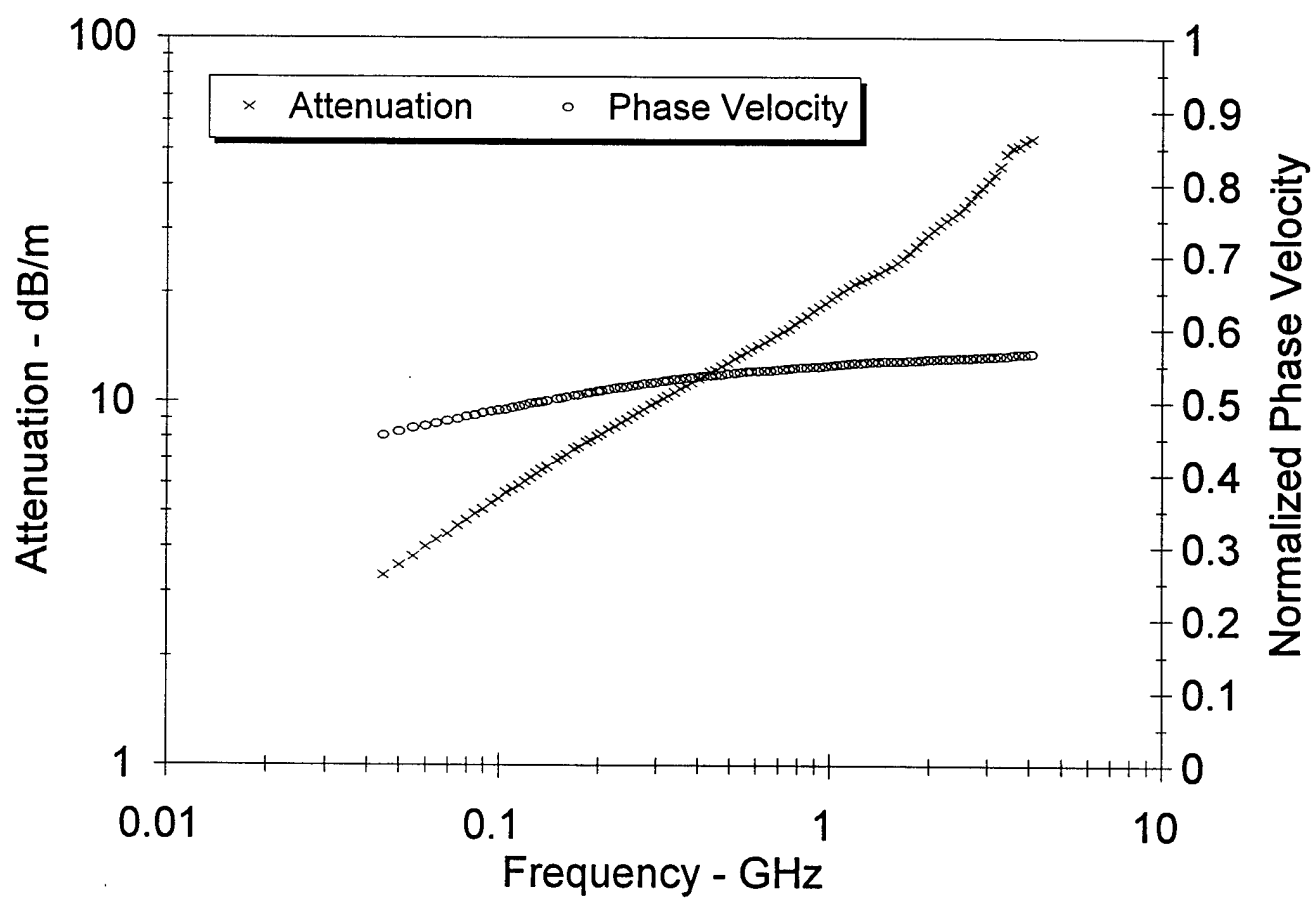
SB40E23N , File: 4SP61341  
20 deg C, Mv = 6.2%, 1.180 g/cc (dry)



SB40E23N , File: 4SP61341  
20 deg C, Mv = 6.2%, 1.180 g/cc (dry)



SB40E23N , File: 4SP61341  
20 deg C, Mv = 6.2%, 1.180 g/cc (dry)





4SP61354  
TC77.5E60.5N

9.7

3

5.1

20

1.28

TC77.5E60.5N , File: 4SP61354

20 deg C, Mv = 5.1%, 1.280 g/cc (dry)

0.045	4.5348	1.5024	0.0038	0.3313	2.8499	0.4634
0.05	4.4545	1.4319	0.004	0.3215	3.0474	0.4679
0.055	4.391	1.367	0.0042	0.3113	3.2256	0.4717
0.06	4.3289	1.3063	0.0044	0.3018	3.3889	0.4754
0.065	4.2937	1.2717	0.0046	0.2962	3.5902	0.4775
0.07	4.2538	1.2237	0.0048	0.2877	3.7399	0.48
0.075	4.2092	1.1878	0.005	0.2822	3.9116	0.4827
0.08	4.173	1.1494	0.0051	0.2754	4.0566	0.485
0.085	4.1421	1.122	0.0053	0.2709	4.2246	0.487
0.09	4.0955	1.0851	0.0054	0.2649	4.3518	0.4899
0.095	4.0866	1.0678	0.0056	0.2613	4.5265	0.4906
0.1	4.0541	1.0395	0.0058	0.2564	4.6583	0.4927
0.105	4.0536	1.0383	0.0061	0.2561	4.886	0.4927
0.11	4.0103	0.9992	0.0061	0.2492	4.9544	0.4956
0.115	3.9879	0.9797	0.0063	0.2457	5.0939	0.4971
0.12	3.9705	0.958	0.0064	0.2413	5.2101	0.4983
0.125	3.9498	0.9426	0.0066	0.2386	5.355	0.4997
0.13	3.9288	0.925	0.0067	0.2354	5.4808	0.5011
0.135	3.914	0.9091	0.0068	0.2323	5.6053	0.5021
0.14	3.8964	0.8907	0.0069	0.2286	5.7095	0.5034
0.15	3.8665	0.866	0.0072	0.224	5.9719	0.5054
0.155	3.8527	0.8499	0.0073	0.2206	6.0685	0.5064
0.16	3.8382	0.8368	0.0074	0.218	6.1798	0.5075
0.17	3.8142	0.8134	0.0077	0.2132	6.404	0.5092
0.175	3.8013	0.8013	0.0078	0.2108	6.5065	0.5101
0.185	3.7801	0.7801	0.008	0.2064	6.716	0.5116
0.19	3.7699	0.7682	0.0081	0.2038	6.8024	0.5124
0.2	3.7465	0.747	0.0083	0.1994	6.986	0.5141
0.205	3.7411	0.739	0.0084	0.1975	7.0897	0.5145
0.215	3.7238	0.7216	0.0086	0.1938	7.2791	0.5158
0.225	3.7073	0.7051	0.0088	0.1902	7.4608	0.517
0.235	3.6924	0.6913	0.009	0.1872	7.6573	0.5182
0.245	3.6795	0.6771	0.0092	0.184	7.8339	0.5191
0.255	3.6646	0.6653	0.0094	0.1816	8.0286	0.5203
0.265	3.6514	0.6541	0.0096	0.1791	8.2177	0.5213
0.275	3.6384	0.6428	0.0098	0.1767	8.3964	0.5222
0.29	3.6216	0.6265	0.0101	0.173	8.6515	0.5235
0.3	3.6103	0.6161	0.0103	0.1707	8.8167	0.5244
0.315	3.5962	0.6021	0.0105	0.1674	9.0661	0.5255
0.325	3.5862	0.5939	0.0107	0.1656	9.2388	0.5263
0.34	3.5729	0.5816	0.011	0.1628	9.4851	0.5273
0.355	3.5672	0.5751	0.0114	0.1612	9.8005	0.5278
0.37	3.5502	0.5596	0.0115	0.1576	9.9639	0.5291
0.385	3.5406	0.5509	0.0118	0.1556	10.2225	0.5299
0.405	3.5273	0.5377	0.0121	0.1525	10.5172	0.5309
0.42	3.5182	0.529	0.0124	0.1504	10.7444	0.5316
0.44	3.5068	0.5183	0.0127	0.1478	11.0477	0.5326
0.455	3.4987	0.5106	0.0129	0.1459	11.2672	0.5332
0.475	3.4883	0.5013	0.0132	0.1437	11.5668	0.534

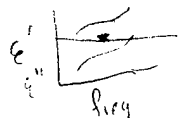
freq. GHz	Re	Im	Conductivity	Loss Tangent	Atten.	Norm. Phase Vel
0.495	3.4782	0.4928	0.0136	0.1417	11.8664	0.5349
0.52	3.4656	0.4818	0.0139	0.139	12.2117	0.5359
0.54	3.4559	0.4733	0.0142	0.137	12.476	0.5367
0.565	3.4445	0.4632	0.0146	0.1345	12.7966	0.5376
0.585	3.4352	0.4557	0.0148	0.1326	13.0532	0.5384
0.61	3.4252	0.4461	0.0151	0.1302	13.3447	0.5392
0.64	3.4132	0.4345	0.0155	0.1273	13.6644	0.5402
0.665	3.4063	0.4264	0.0158	0.1252	13.9483	0.5408
0.695	3.397	0.417	0.0161	0.1228	14.2764	0.5416
0.725	3.3886	0.4091	0.0165	0.1207	14.6288	0.5423
0.755	3.3812	0.3985	0.0167	0.1178	14.856	0.5429
0.785	3.3727	0.3934	0.0172	0.1166	15.2681	0.5436
0.82	3.3624	0.3847	0.0175	0.1144	15.6238	0.5445
0.855	3.3524	0.3724	0.0177	0.1111	15.7954	0.5453
0.895	3.3486	0.3585	0.0178	0.1071	15.9252	0.5457
0.93	3.3461	0.3505	0.0181	0.1048	16.1881	0.5459
0.97	3.3411	0.3422	0.0185	0.1024	16.4938	0.5464
1.015	3.3386	0.3357	0.0189	0.1005	16.9402	0.5466
1.055	3.3361	0.3305	0.0194	0.0991	17.3419	0.5468
1.1	3.3341	0.3267	0.02	0.098	17.8795	0.547
1.15	3.3312	0.3231	0.0207	0.097	18.4941	0.5473
1.195	3.3273	0.3216	0.0214	0.0967	19.1437	0.5476
1.25	3.3215	0.3203	0.0223	0.0964	19.9595	0.5481
1.3	3.3157	0.3194	0.0231	0.0963	20.7194	0.5485
1.36	3.3084	0.3193	0.0241	0.0965	21.6915	0.5491
1.415	3.3002	0.3191	0.0251	0.0967	22.5825	0.5498
1.475	3.291	0.3175	0.026	0.0965	23.4561	0.5506
1.54	3.2809	0.3161	0.0271	0.0964	24.4194	0.5514
1.605	3.2702	0.3126	0.0279	0.0956	25.2045	0.5524
1.675	3.2591	0.3064	0.0285	0.094	25.8329	0.5533
1.745	3.251	0.299	0.029	0.092	26.2936	0.554
1.82	3.2441	0.2934	0.0297	0.0904	26.9371	0.5546
1.9	3.2369	0.286	0.0302	0.0883	27.4439	0.5553
1.98	3.232	0.2785	0.0307	0.0862	27.8718	0.5557
2.065	3.2296	0.2724	0.0313	0.0844	28.4473	0.556
2.155	3.228	0.2682	0.0321	0.0831	29.2336	0.5561
2.25	3.2268	0.267	0.0334	0.0827	30.39	0.5562
2.345	3.2228	0.268	0.0349	0.0831	31.8097	0.5566
2.445	3.2152	0.2696	0.0366	0.0838	33.4026	0.5572
2.55	3.2026	0.2674	0.0379	0.0835	34.6254	0.5583
2.66	3.1959	0.2556	0.0378	0.08	34.5687	0.5589
2.775	3.1959	0.2491	0.0384	0.078	35.1502	0.559
2.89	3.1969	0.2458	0.0395	0.0769	36.1119	0.5589
3.015	3.1987	0.2471	0.0414	0.0773	37.8684	0.5587
3.145	3.1977	0.2538	0.0444	0.0794	40.5624	0.5588
3.28	3.1891	0.2641	0.0482	0.0828	44.0868	0.5595
3.42	3.1669	0.268	0.051	0.0846	46.812	0.5614
3.57	3.1551	0.2493	0.0495	0.079	45.5469	0.5625
3.72	3.1555	0.2422	0.0501	0.0768	46.1097	0.5625
3.88	3.1553	0.2387	0.0515	0.0757	47.3942	0.5626
4.045	3.1562	0.2394	0.0538	0.0759	49.5458	0.5625

Measure ENL data points. Wavelength indicate add 2nd data  
pts. Every 5MHz. Data is very smooth. Take 1st  
100 pts + then for remaining 200pts. Every 4th point.

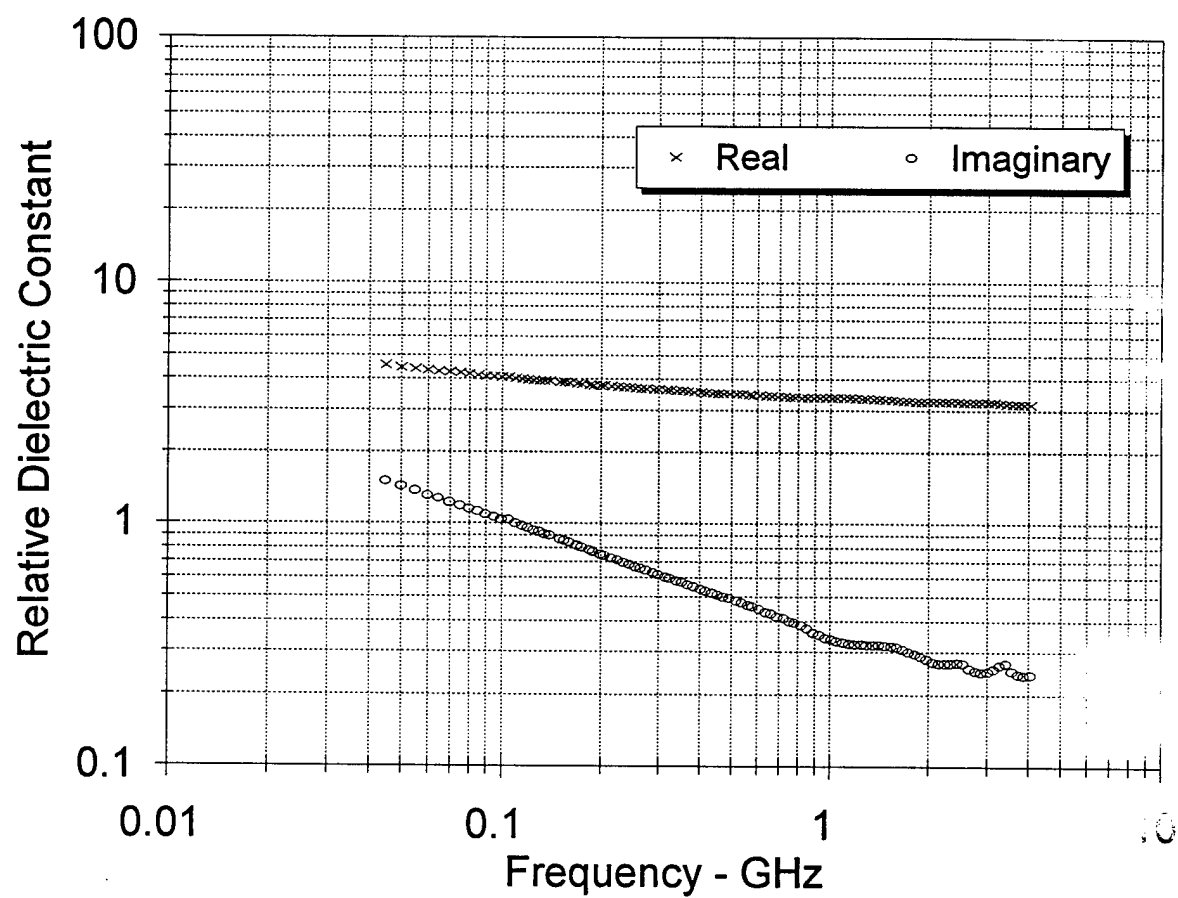
Did not  
save missing  
frequencies

100 → because of log scale  
Data is smooth

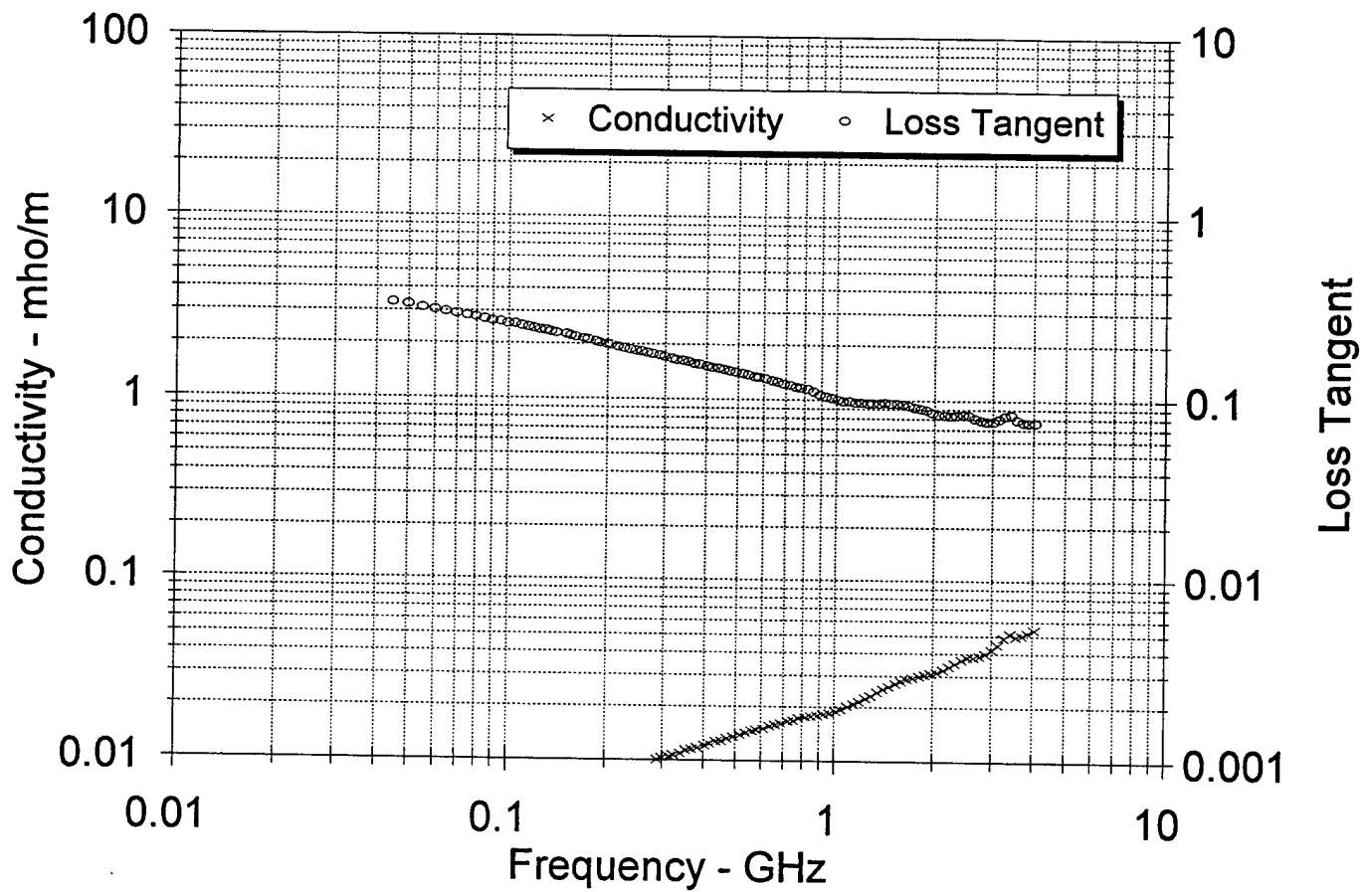
Hard Red  
Only



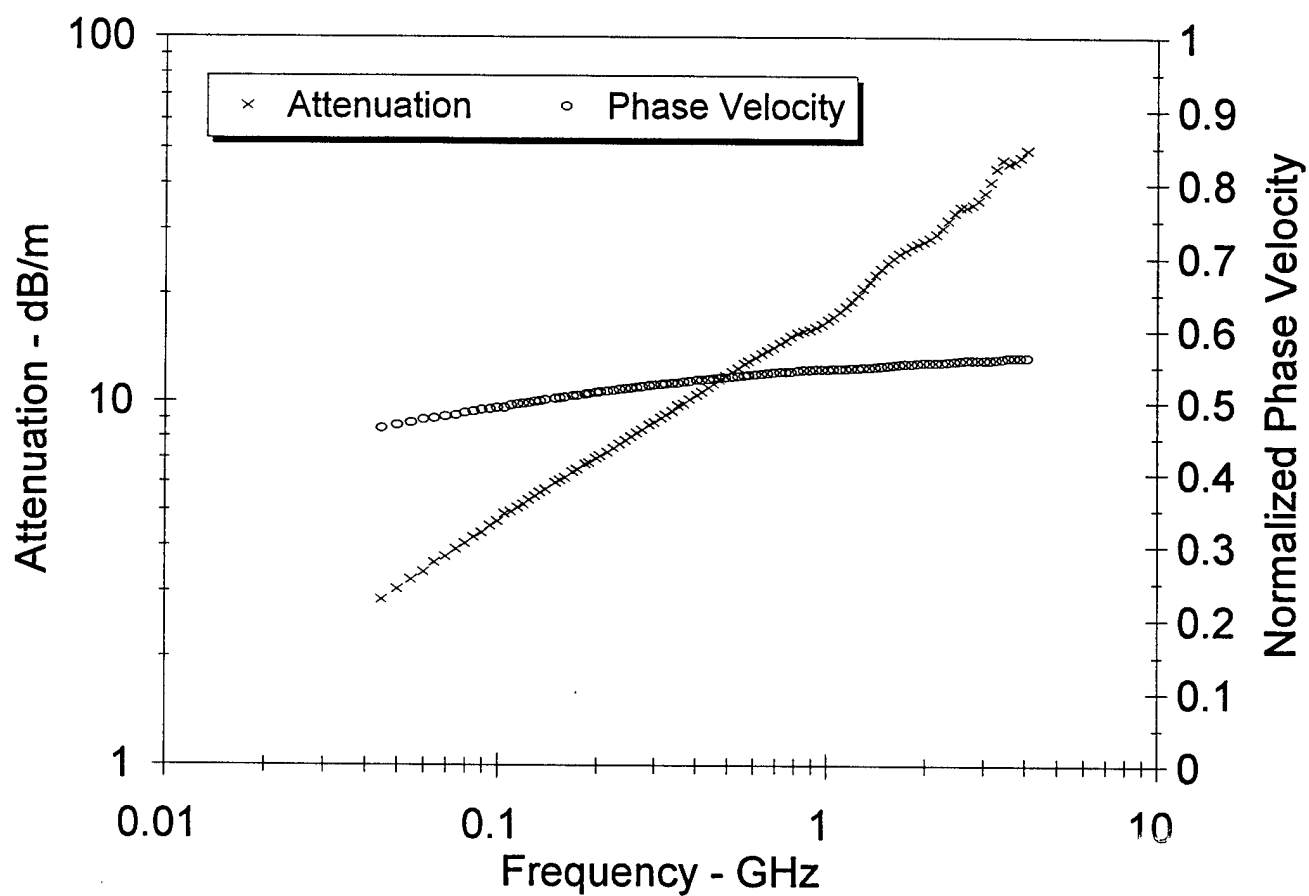
TC77.5E60.5N , File: 4SP61354  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 4SP61354  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 4SP61354  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)



4SP61406  
TC65E10.5N

9.7

4

4.1

20

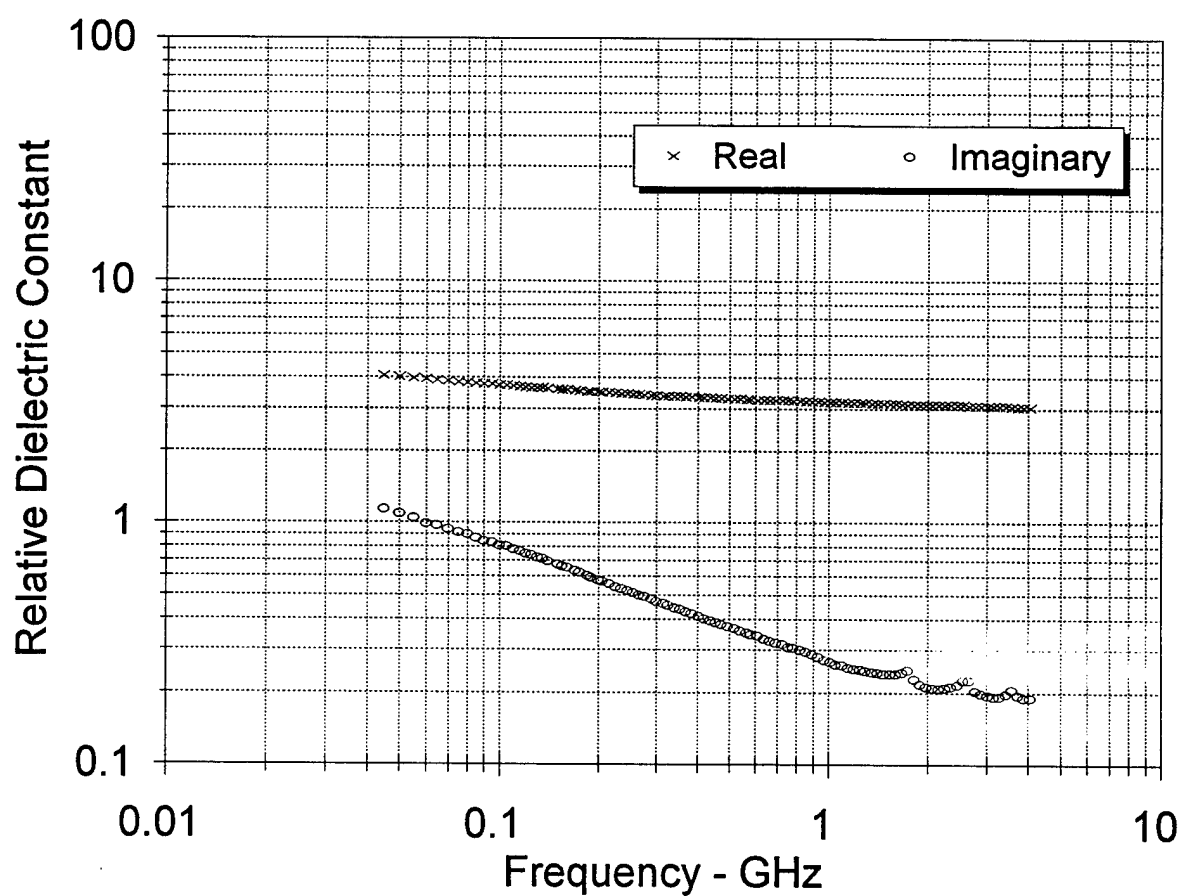
1.3

TC65E10.5N , File: 4SP61406  
20 deg C, Mv = 4.1%, 1.300 g/cc (dry)

0.045	4.0641	1.14	0.0029	0.2805	2.2926	0.4913
0.05	4.0134	1.0917	0.003	0.272	2.4561	0.4947
0.055	3.9629	1.0479	0.0032	0.2644	2.6111	0.4981
0.06	3.9345	0.9929	0.0033	0.2523	2.7105	0.5002
0.065	3.8887	0.9768	0.0035	0.2512	2.906	0.5032
0.07	3.8597	0.9393	0.0037	0.2434	3.0223	0.5053
0.075	3.8276	0.9139	0.0038	0.2388	3.1646	0.5076
0.08	3.8062	0.8919	0.004	0.2343	3.3045	0.5091
0.085	3.7781	0.8663	0.0041	0.2293	3.4237	0.5112
0.09	3.7404	0.8378	0.0042	0.224	3.5245	0.5139
0.095	3.7361	0.8272	0.0044	0.2214	3.6759	0.5143
0.1	3.7122	0.8045	0.0045	0.2167	3.7761	0.516
0.105	3.7077	0.7996	0.0047	0.2157	3.9436	0.5164
0.11	3.6786	0.7761	0.0047	0.211	4.0264	0.5185
0.115	3.6612	0.7601	0.0049	0.2076	4.1333	0.5199
0.12	3.648	0.7439	0.005	0.2039	4.2295	0.5209
0.125	3.6325	0.7327	0.0051	0.2017	4.3488	0.5221
0.13	3.6161	0.7181	0.0052	0.1986	4.4439	0.5233
0.135	3.6049	0.7056	0.0053	0.1957	4.5422	0.5242
0.14	3.5924	0.6927	0.0054	0.1928	4.6327	0.5252
0.15	3.5691	0.672	0.0056	0.1883	4.832	0.527
0.155	3.5581	0.6598	0.0057	0.1854	4.9107	0.5279
0.16	3.5478	0.6493	0.0058	0.183	4.9964	0.5287
0.17	3.5283	0.6307	0.006	0.1787	5.1711	0.5303
0.175	3.5178	0.6201	0.006	0.1763	5.2426	0.5311
0.185	3.5014	0.6025	0.0062	0.1721	5.3981	0.5325
0.19	3.4941	0.5938	0.0063	0.17	5.4707	0.5331
0.2	3.4756	0.5764	0.0064	0.1659	5.6058	0.5346
0.205	3.4718	0.5698	0.0065	0.1641	5.6835	0.5349
0.215	3.4588	0.5562	0.0067	0.1608	5.8303	0.536
0.225	3.447	0.5431	0.0068	0.1576	5.9686	0.537
0.235	3.4343	0.5316	0.0069	0.1548	6.114	0.538
0.245	3.4247	0.5201	0.0071	0.1519	6.2457	0.5388
0.255	3.4135	0.5111	0.0072	0.1497	6.3991	0.5398
0.265	3.4035	0.5014	0.0074	0.1473	6.5336	0.5406
0.275	3.3934	0.4926	0.0075	0.1452	6.6712	0.5414
0.29	3.3804	0.48	0.0077	0.142	6.8699	0.5425
0.3	3.3718	0.4715	0.0079	0.1398	6.99	0.5433
0.315	3.3604	0.4609	0.0081	0.1371	7.1864	0.5442
0.325	3.3547	0.4536	0.0082	0.1352	7.3037	0.5447
0.34	3.3447	0.4434	0.0084	0.1326	7.482	0.5456
0.355	3.3387	0.4383	0.0087	0.1313	7.7291	0.5461
0.37	3.3278	0.4263	0.0088	0.1281	7.8486	0.5471
0.385	3.3215	0.4194	0.009	0.1263	8.0437	0.5476
0.405	3.3122	0.409	0.0092	0.1235	8.2621	0.5484
0.42	3.3062	0.4022	0.0094	0.1216	8.4342	0.549
0.44	3.2981	0.3932	0.0096	0.1192	8.6494	0.5497
0.455	3.2926	0.3871	0.0098	0.1176	8.8136	0.5502
0.475	3.2857	0.3797	0.01	0.1156	9.0346	0.5508

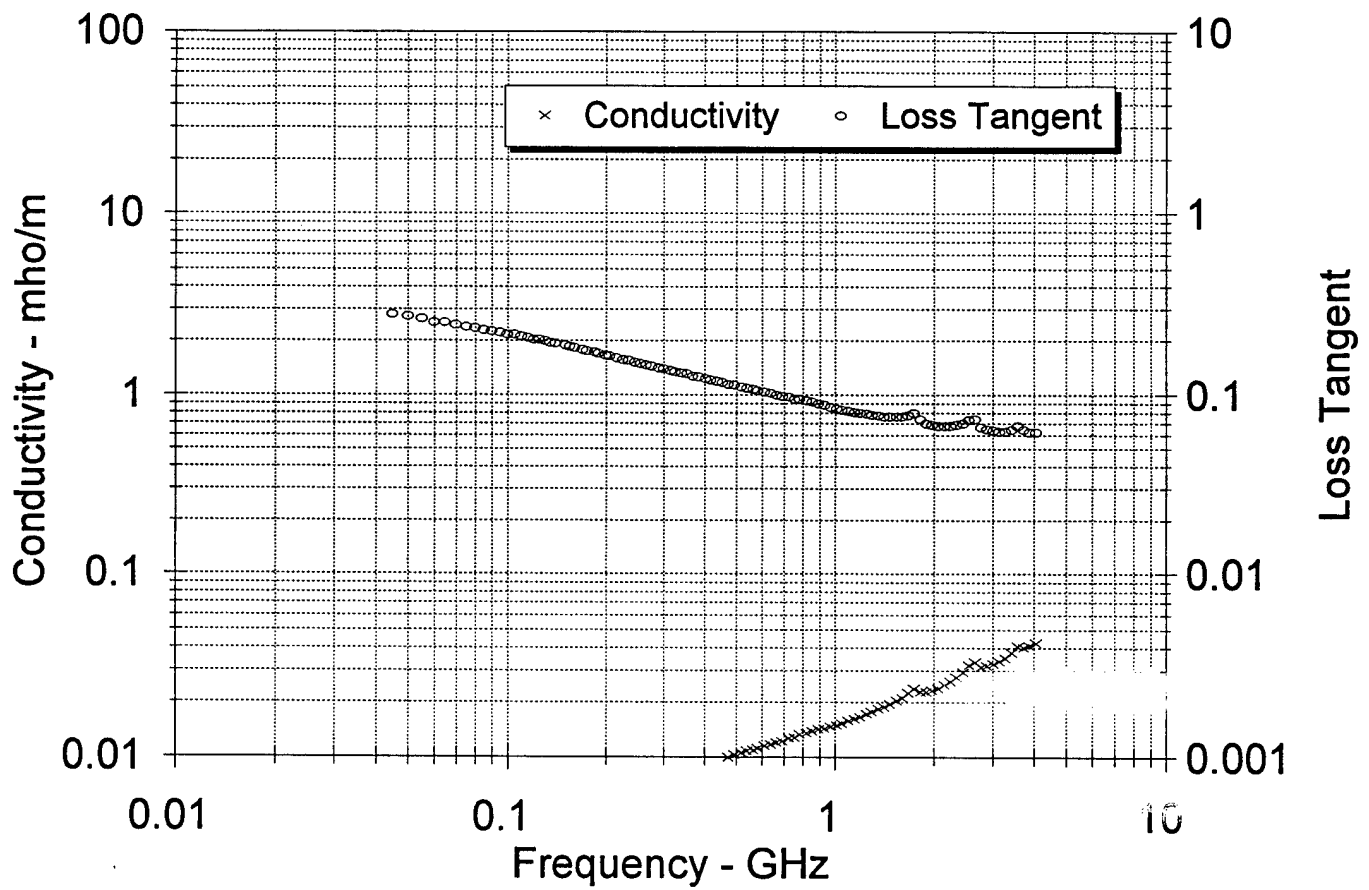
0.495	3.2784	0.3732	0.0103	0.1138	9.2654	0.5514
0.52	3.2697	0.3652	0.0106	0.1117	9.5381	0.5522
0.54	3.2632	0.3586	0.0108	0.1099	9.7358	0.5527
0.565	3.2554	0.3511	0.011	0.1078	9.9847	0.5534
0.585	3.249	0.3457	0.0112	0.1064	10.1909	0.554
0.61	3.2422	0.339	0.0115	0.1046	10.4332	0.5546
0.64	3.2338	0.3305	0.0118	0.1022	10.6838	0.5554
0.665	3.2294	0.325	0.012	0.1006	10.9266	0.5558
0.695	3.2233	0.3187	0.0123	0.0989	11.2098	0.5563
0.725	3.2177	0.3141	0.0127	0.0976	11.5352	0.5568
0.755	3.2137	0.3058	0.0128	0.0952	11.7017	0.5572
0.785	3.2049	0.304	0.0133	0.0949	12.1121	0.558
0.82	3.1985	0.298	0.0136	0.0932	12.4158	0.5585
0.855	3.1924	0.2932	0.0139	0.0919	12.7499	0.5591
0.895	3.185	0.2857	0.0142	0.0897	13.0199	0.5598
0.93	3.1807	0.2793	0.0144	0.0878	13.2334	0.5602
0.97	3.1748	0.2722	0.0147	0.0858	13.4682	0.5607
1.015	3.1708	0.2665	0.015	0.0841	13.8059	0.5611
1.055	3.1676	0.2613	0.0153	0.0825	14.0739	0.5614
1.1	3.1656	0.2574	0.0157	0.0813	14.4607	0.5616
1.15	3.1622	0.2527	0.0162	0.0799	14.8538	0.5619
1.195	3.1592	0.2503	0.0166	0.0792	15.2962	0.5622
1.25	3.154	0.2479	0.0172	0.0786	15.856	0.5626
1.3	3.1491	0.2446	0.0177	0.0777	16.2854	0.5631
1.36	3.1447	0.242	0.0183	0.0769	16.8655	0.5635
1.415	3.1409	0.2398	0.0189	0.0763	17.402	0.5638
1.475	3.1368	0.2379	0.0195	0.0758	18.0059	0.5642
1.54	3.1331	0.237	0.0203	0.0757	18.7452	0.5645
1.605	3.1296	0.237	0.0211	0.0757	19.5406	0.5649
1.675	3.1247	0.2406	0.0224	0.077	20.7213	0.5653
1.745	3.1058	0.246	0.0239	0.0792	22.1427	0.567
1.82	3.0917	0.2267	0.0229	0.0733	21.3312	0.5683
1.9	3.0938	0.2157	0.0228	0.0697	21.1816	0.5682
1.98	3.0945	0.2107	0.0232	0.0681	21.5612	0.5681
2.065	3.0954	0.2083	0.0239	0.0673	22.2254	0.5681
2.155	3.0952	0.2073	0.0248	0.067	23.083	0.5681
2.25	3.0951	0.2082	0.026	0.0673	24.2047	0.5681
2.345	3.0933	0.2104	0.0274	0.068	25.4977	0.5682
2.445	3.0904	0.2153	0.0293	0.0697	27.2255	0.5685
2.55	3.0817	0.2243	0.0318	0.0728	29.6219	0.5693
2.66	3.0555	0.2241	0.0332	0.0734	31.0026	0.5717
2.775	3.0508	0.2026	0.0313	0.0664	29.2673	0.5722
2.89	3.0531	0.1965	0.0316	0.0644	29.551	0.572
3.015	3.0533	0.1936	0.0325	0.0634	30.3658	0.572
3.145	3.0531	0.1917	0.0335	0.0628	31.3741	0.572
3.28	3.0532	0.1915	0.0349	0.0627	32.6733	0.572
3.42	3.0545	0.1959	0.0373	0.0641	34.8563	0.5719
3.57	3.0407	0.2043	0.0406	0.0672	38.0308	0.5731
3.72	3.0334	0.1939	0.0401	0.0639	37.657	0.5739
3.88	3.0321	0.189	0.0408	0.0623	38.2839	0.574
4.045	3.0334	0.1887	0.0424	0.0622	39.8467	0.5739

TC65E10.5N , File: 4SP61406  
20 deg C, Mv = 4.1%, 1.300 g/cc (dry)

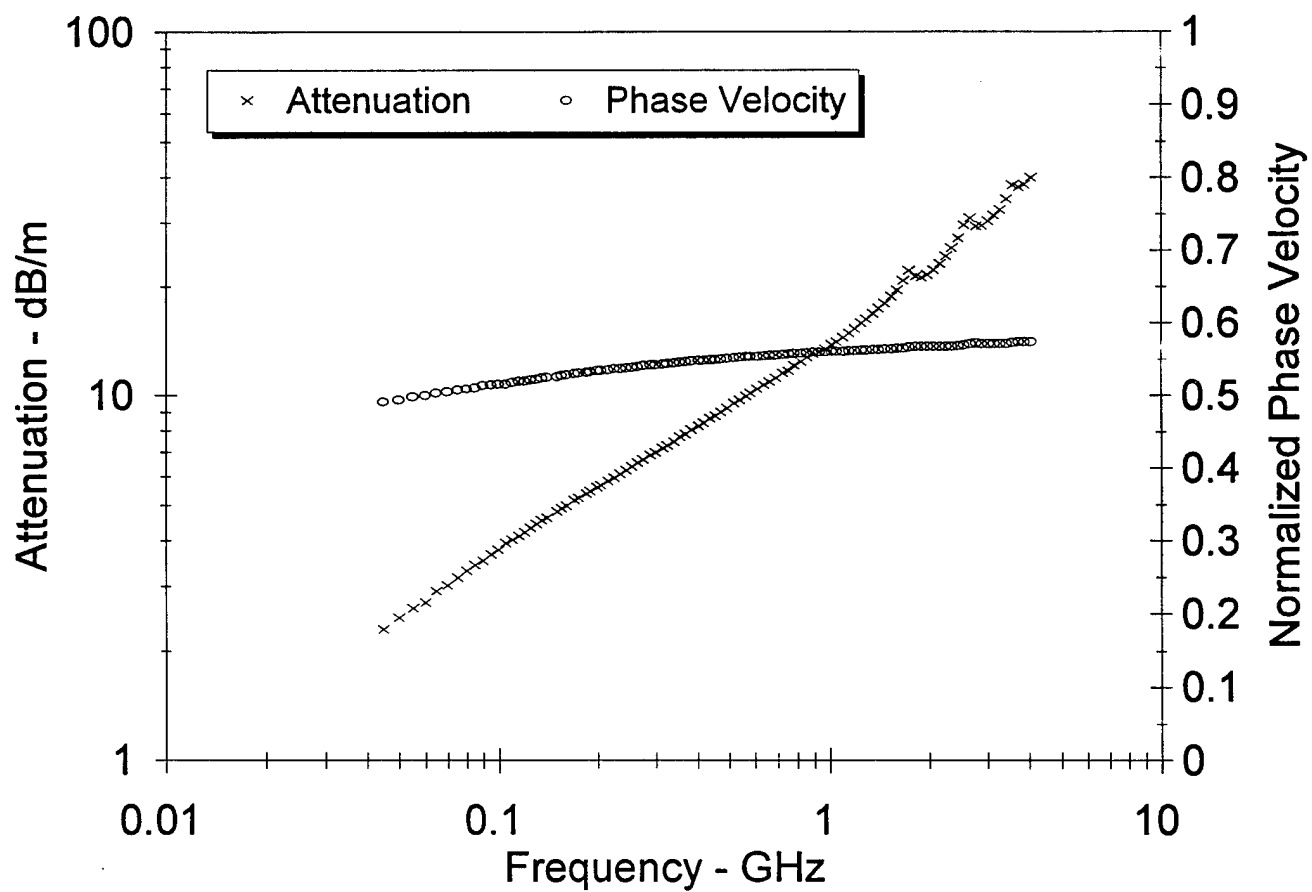




TC65E10.5N , File: 4SP61406  
20 deg C, Mv = 4.1%, 1.300 g/cc (dry)



TC65E10.5N , File: 4SP61406  
20 deg C, Mv = 4.1%, 1.300 g/cc (dry)



4SP61418  
SB65E10.5N

4.9

1

SB65E10.5N , File: 4SP61418

7.3

20 deg C, Mv = 7.3%, 1.350 g/cc (dry)

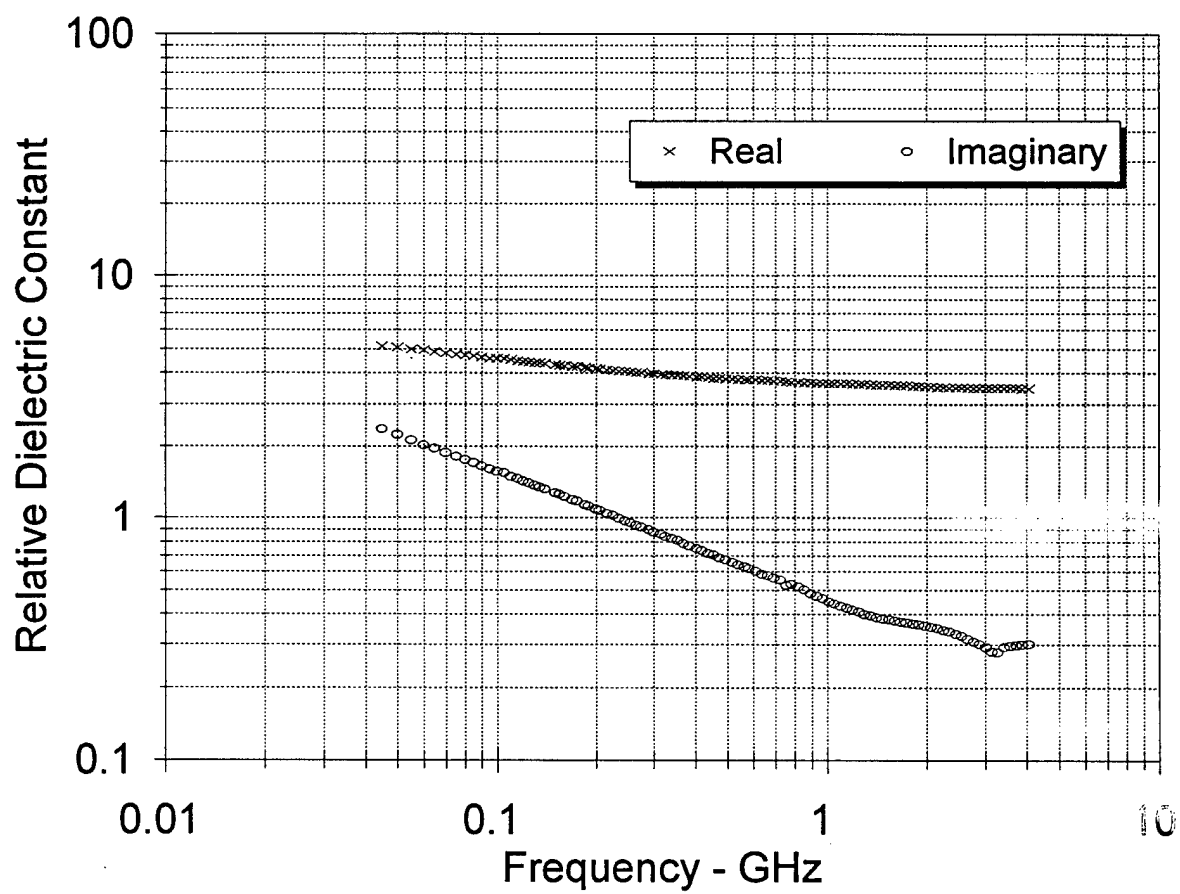
20

1.35

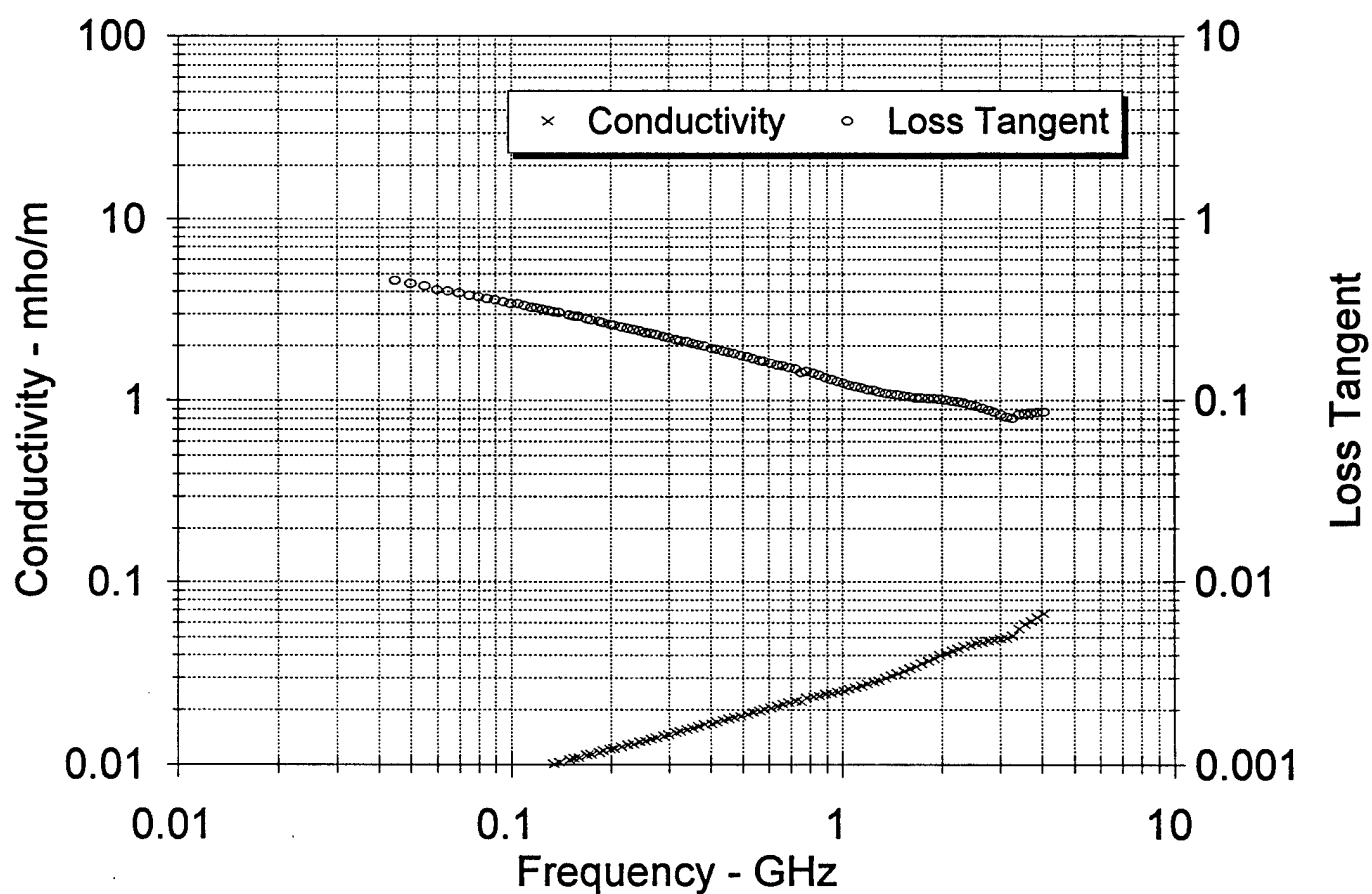
0.045	5.1346	2.3411	0.0059	0.456	4.1279	0.4308
0.05	5.0511	2.2254	0.0062	0.4406	4.4024	0.435
0.055	4.9717	2.1149	0.0065	0.4254	4.6455	0.4391
0.06	4.9424	2.0091	0.0067	0.4065	4.837	0.4411
0.065	4.8472	1.9498	0.007	0.4022	5.1369	0.4456
0.07	4.8026	1.8704	0.0073	0.3895	5.3375	0.4482
0.075	4.7539	1.8024	0.0075	0.3792	5.544	0.4509
0.08	4.7113	1.7499	0.0078	0.3714	5.7708	0.4532
0.085	4.6695	1.6973	0.008	0.3635	5.9777	0.4555
0.09	4.6266	1.6452	0.0082	0.3556	6.1675	0.4579
0.095	4.5935	1.6002	0.0085	0.3484	6.3586	0.4599
0.1	4.5621	1.5641	0.0087	0.3428	6.5677	0.4616
0.105	4.5541	1.5471	0.009	0.3397	6.8288	0.4622
0.11	4.5018	1.4948	0.0091	0.332	6.9561	0.4651
0.115	4.4721	1.4606	0.0093	0.3266	7.1325	0.4668
0.12	4.4506	1.4281	0.0095	0.3209	7.2977	0.4682
0.125	4.4215	1.4011	0.0097	0.3169	7.4847	0.4698
0.13	4.3958	1.3746	0.0099	0.3127	7.6614	0.4714
0.135	4.3767	1.3472	0.0101	0.3078	7.8174	0.4726
0.14	4.3513	1.3211	0.0103	0.3036	7.9753	0.4741
0.15	4.3125	1.2788	0.0107	0.2965	8.313	0.4764
0.155	4.2936	1.2553	0.0108	0.2924	8.453	0.4776
0.16	4.2718	1.2343	0.011	0.2889	8.6033	0.479
0.17	4.2409	1.195	0.0113	0.2818	8.8866	0.4809
0.175	4.2222	1.1743	0.0114	0.2781	9.0114	0.4821
0.185	4.1925	1.1387	0.0117	0.2716	9.2745	0.484
0.19	4.1765	1.1228	0.0119	0.2688	9.4115	0.485
0.2	4.1517	1.0922	0.0121	0.2631	9.6691	0.4867
0.205	4.1368	1.0757	0.0123	0.26	9.7806	0.4876
0.215	4.1118	1.0451	0.0125	0.2542	9.9998	0.4893
0.225	4.0935	1.0248	0.0128	0.2503	10.2866	0.4905
0.235	4.0719	0.9979	0.013	0.2451	10.4934	0.4919
0.245	4.0526	0.977	0.0133	0.2411	10.7386	0.4932
0.255	4.0318	0.9547	0.0135	0.2368	10.9526	0.4946
0.265	4.0142	0.9374	0.0138	0.2335	11.2029	0.4958
0.275	3.9971	0.9177	0.014	0.2296	11.4078	0.497
0.29	3.9734	0.8929	0.0144	0.2247	11.7434	0.4986
0.3	3.9585	0.8765	0.0146	0.2214	11.9493	0.4996
0.315	3.9392	0.8545	0.015	0.2169	12.2645	0.5009
0.325	3.9265	0.8383	0.0152	0.2135	12.4364	0.5018
0.34	3.9098	0.8206	0.0155	0.2099	12.7652	0.503
0.355	3.9015	0.8074	0.0159	0.2069	13.1297	0.5036
0.37	3.8787	0.7851	0.0162	0.2024	13.3489	0.5052
0.385	3.867	0.7687	0.0165	0.1988	13.6224	0.5061
0.405	3.8493	0.7481	0.0168	0.1943	13.9805	0.5073
0.42	3.838	0.7339	0.0171	0.1912	14.2478	0.5081
0.44	3.8208	0.715	0.0175	0.1871	14.5772	0.5094
0.455	3.8114	0.7018	0.0178	0.1841	14.8151	0.5101
0.475	3.7984	0.6854	0.0181	0.1805	15.1342	0.511

0.495	3.7868	0.6719	0.0185	0.1774	15.4861	0.5119
0.52	3.7736	0.6541	0.0189	0.1733	15.867	0.5129
0.54	3.7638	0.6414	0.0193	0.1704	16.1807	0.5136
0.565	3.7534	0.6263	0.0197	0.1669	16.5557	0.5144
0.585	3.7449	0.6162	0.02	0.1646	16.888	0.515
0.61	3.7343	0.6014	0.0204	0.1611	17.2134	0.5158
0.64	3.7251	0.5866	0.0209	0.1575	17.6383	0.5165
0.665	3.7169	0.5763	0.0213	0.155	18.0262	0.5171
0.695	3.7069	0.5638	0.0218	0.1521	18.4575	0.5179
0.725	3.6965	0.553	0.0223	0.1496	18.9157	0.5187
0.755	3.6811	0.5253	0.0221	0.1427	18.7536	0.5199
0.785	3.6754	0.5321	0.0232	0.1448	19.7647	0.5203
0.82	3.6611	0.5186	0.0236	0.1417	20.1665	0.5213
0.855	3.6489	0.5035	0.0239	0.138	20.4487	0.5223
0.895	3.6397	0.4873	0.0243	0.1339	20.7465	0.523
0.93	3.6329	0.4745	0.0245	0.1306	21.0126	0.5235
0.97	3.6262	0.4618	0.0249	0.1274	21.3548	0.5241
1.015	3.6183	0.45	0.0254	0.1244	21.7974	0.5247
1.055	3.6143	0.4412	0.0259	0.1221	22.2272	0.525
1.1	3.6087	0.4319	0.0264	0.1197	22.7093	0.5255
1.15	3.6033	0.423	0.0271	0.1174	23.2717	0.5259
1.195	3.5978	0.416	0.0276	0.1156	23.7997	0.5263
1.25	3.5902	0.407	0.0283	0.1134	24.384	0.5269
1.3	3.5852	0.399	0.0288	0.1113	24.8774	0.5273
1.36	3.5804	0.393	0.0297	0.1098	25.6514	0.5277
1.415	3.5763	0.3874	0.0305	0.1083	26.3275	0.528
1.475	3.5713	0.3827	0.0314	0.1072	27.133	0.5284
1.54	3.5655	0.3789	0.0324	0.1063	28.0692	0.5288
1.605	3.5596	0.3745	0.0334	0.1052	28.9378	0.5293
1.675	3.5536	0.3704	0.0345	0.1042	29.8962	0.5298
1.745	3.547	0.3666	0.0356	0.1033	30.8527	0.5303
1.82	3.5407	0.3639	0.0368	0.1028	31.9726	0.5307
1.9	3.5324	0.3608	0.0381	0.1021	33.1296	0.5314
1.98	3.5241	0.3577	0.0394	0.1015	34.2771	0.532
2.065	3.5147	0.354	0.0406	0.1007	35.4177	0.5327
2.155	3.5056	0.3491	0.0418	0.0996	36.5035	0.5334
2.25	3.4972	0.3442	0.0431	0.0984	37.622	0.5341
2.345	3.4887	0.3382	0.0441	0.097	38.581	0.5348
2.445	3.4806	0.3313	0.045	0.0952	39.4473	0.5354
2.55	3.4736	0.3238	0.0459	0.0932	40.25	0.536
2.66	3.4671	0.316	0.0467	0.0912	41.0235	0.5365
2.775	3.4615	0.3086	0.0476	0.0891	41.8199	0.537
2.89	3.4563	0.2994	0.0481	0.0866	42.2893	0.5374
3.015	3.455	0.2909	0.0488	0.0842	42.8833	0.5375
3.145	3.4573	0.281	0.0491	0.0813	43.1986	0.5374
3.28	3.471	0.2774	0.0506	0.0799	44.3863	0.5363
3.42	3.4711	0.2914	0.0554	0.084	48.615	0.5363
3.57	3.4635	0.295	0.0586	0.0852	51.4244	0.5368
3.72	3.4574	0.2965	0.0613	0.0858	53.9129	0.5373
3.88	3.4516	0.2982	0.0643	0.0864	56.601	0.5378
4.045	3.4459	0.2998	0.0674	0.087	59.3647	0.5382

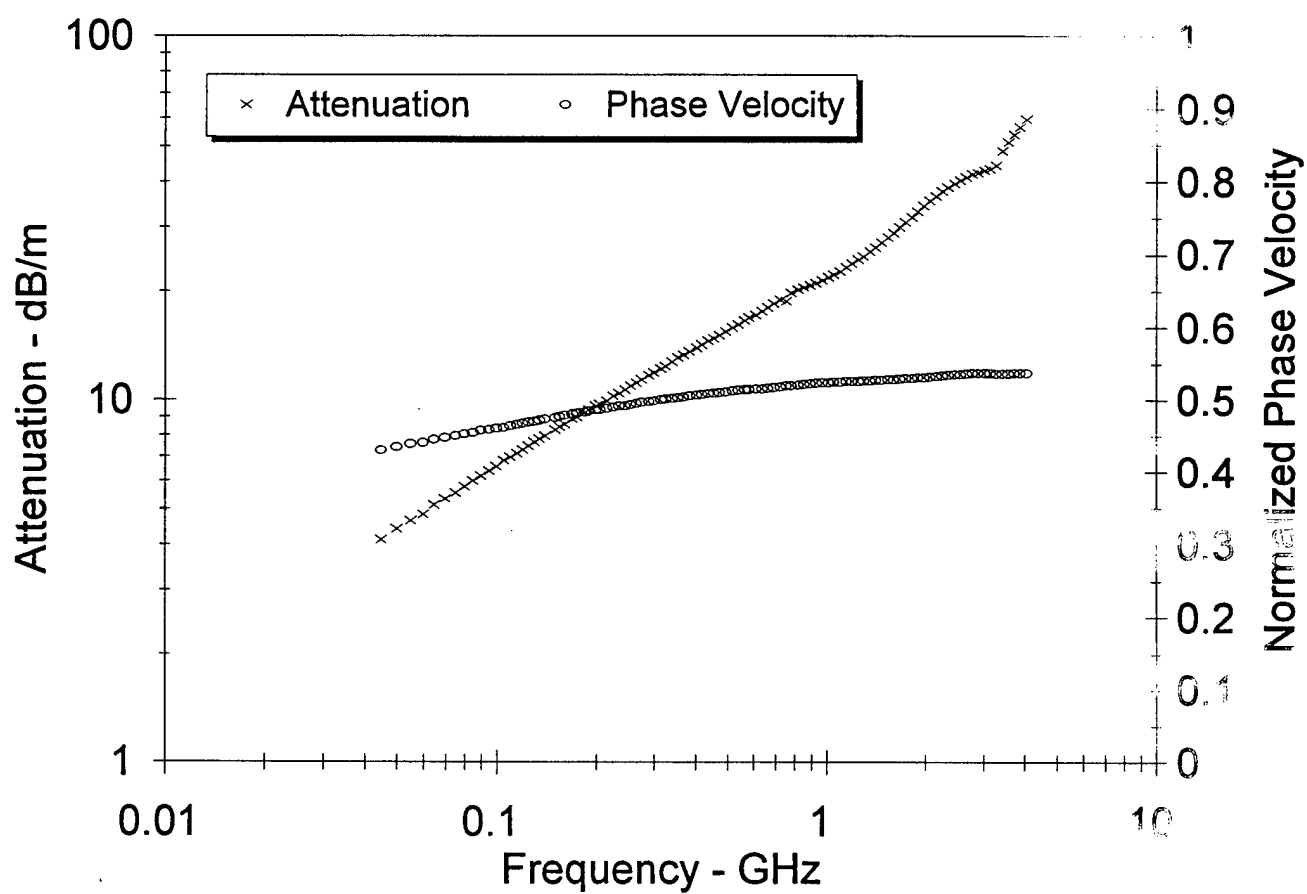
SB65E10.5N , File: 4SP61418  
20 deg C, Mv = 7.3%, 1.350 g/cc (dry)



SB65E10.5N , File: 4SP61418  
20 deg C, Mv = 7.3%, 1.350 g/cc (dry)



SB65E10.5N , File: 4SP61418  
20 deg C, Mv = 7.3%, 1.350 g/cc (dry)



4SP61435

TC52.5E85.5N

4.9

3

7.1

20

1.33

TC52.5E85.5N , File: 4SP61435

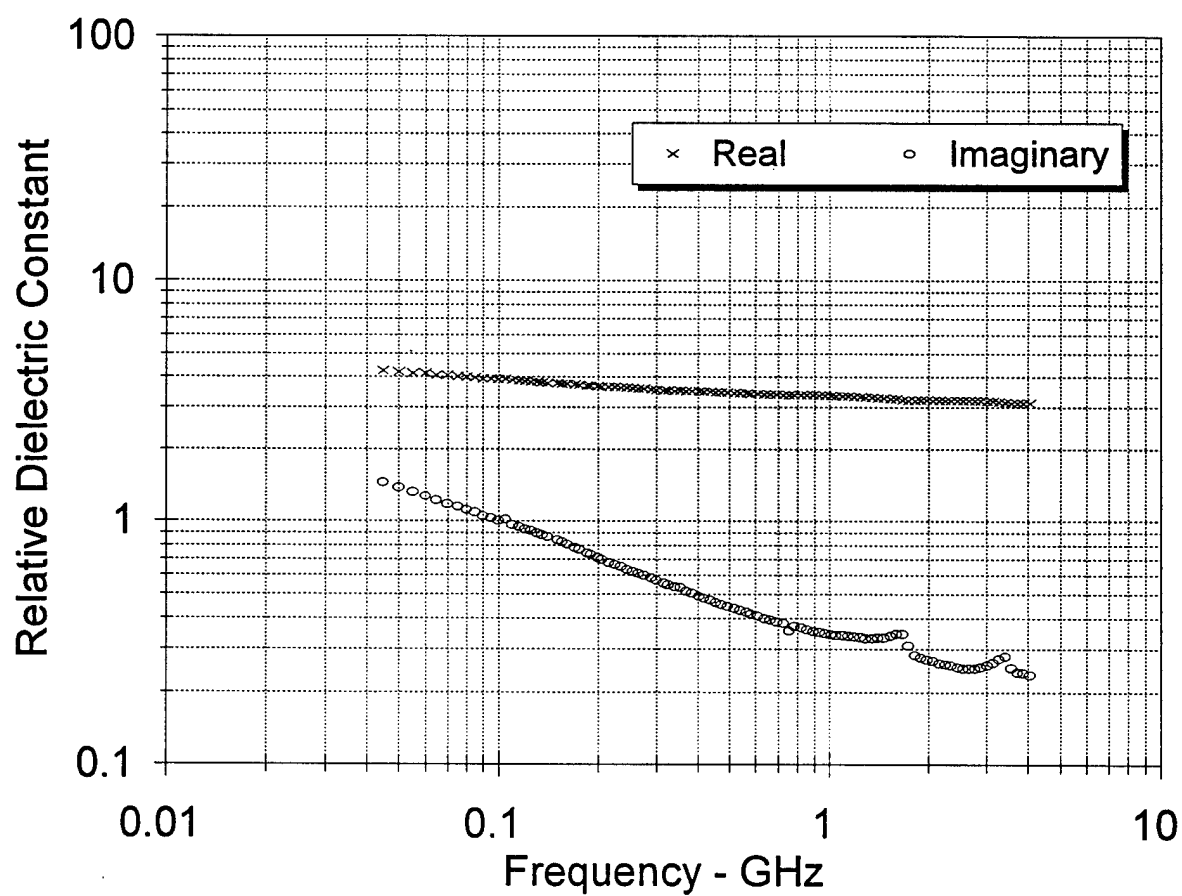
20 deg C, Mv = 7.1%, 1.330 g/cc (dry)

0.045	4.2343	1.4444	0.0036	0.3411	2.8334	0.4792
0.05	4.1853	1.3805	0.0038	0.3298	3.0291	0.4825
0.055	4.1389	1.3195	0.004	0.3188	3.2051	0.4856
0.06	4.1272	1.272	0.0042	0.3082	3.3781	0.4866
0.065	4.0662	1.224	0.0044	0.301	3.5496	0.4905
0.07	4.0417	1.1823	0.0046	0.2925	3.7059	0.4923
0.075	4.0041	1.1488	0.0048	0.2869	3.8776	0.4948
0.08	3.9813	1.1157	0.005	0.2802	4.0302	0.4964
0.085	3.9616	1.0858	0.0051	0.2741	4.1794	0.4978
0.09	3.9321	1.0542	0.0053	0.2681	4.3143	0.4999
0.095	3.9174	1.031	0.0054	0.2632	4.4634	0.501
0.1	3.8918	1.0038	0.0056	0.2579	4.5907	0.5028
0.105	3.9216	1.0227	0.006	0.2608	4.8916	0.5008
0.11	3.862	0.9707	0.0059	0.2514	4.9043	0.5049
0.115	3.8448	0.9508	0.0061	0.2473	5.0344	0.5062
0.12	3.8302	0.9257	0.0062	0.2417	5.1262	0.5073
0.125	3.8124	0.9142	0.0064	0.2398	5.2864	0.5086
0.13	3.7951	0.8966	0.0065	0.2363	5.4051	0.5098
0.135	3.7838	0.8793	0.0066	0.2324	5.5143	0.5107
0.14	3.7693	0.863	0.0067	0.229	5.6244	0.5118
0.15	3.7444	0.8373	0.007	0.2236	5.8672	0.5136
0.155	3.7323	0.8195	0.0071	0.2196	5.9451	0.5146
0.16	3.7192	0.8054	0.0072	0.2166	6.0431	0.5156
0.17	3.702	0.7798	0.0074	0.2107	6.2331	0.5169
0.175	3.6874	0.7663	0.0075	0.2078	6.3186	0.518
0.185	3.6713	0.7406	0.0076	0.2017	6.4715	0.5193
0.19	3.6618	0.7283	0.0077	0.1989	6.5453	0.52
0.2	3.6478	0.7082	0.0079	0.1941	6.7142	0.5212
0.205	3.6362	0.6964	0.0079	0.1915	6.7789	0.522
0.215	3.6157	0.674	0.0081	0.1864	6.9017	0.5237
0.225	3.6114	0.6639	0.0083	0.1838	7.1195	0.524
0.235	3.5972	0.6495	0.0085	0.1806	7.2904	0.5251
0.245	3.585	0.6349	0.0086	0.1771	7.4432	0.5261
0.255	3.5716	0.621	0.0088	0.1739	7.5932	0.5272
0.265	3.5579	0.6116	0.009	0.1719	7.7873	0.5282
0.275	3.5457	0.5989	0.0092	0.1689	7.9272	0.5292
0.29	3.53	0.582	0.0094	0.1649	8.1433	0.5305
0.3	3.5213	0.5717	0.0095	0.1624	8.2867	0.5312
0.315	3.5079	0.5574	0.0098	0.1589	8.5003	0.5323
0.325	3.4998	0.5475	0.0099	0.1564	8.6246	0.5329
0.34	3.4889	0.5366	0.0101	0.1538	8.8589	0.5338
0.355	3.4931	0.5348	0.0106	0.1531	9.2129	0.5335
0.37	3.4718	0.5152	0.0106	0.1484	9.2798	0.5352
0.385	3.4652	0.5069	0.0109	0.1463	9.5102	0.5358
0.405	3.4551	0.4922	0.0111	0.1425	9.7302	0.5366
0.42	3.4481	0.4841	0.0113	0.1404	9.9349	0.5372
0.44	3.4397	0.4727	0.0116	0.1374	10.1763	0.5379
0.455	3.4341	0.464	0.0117	0.1351	10.3386	0.5384
0.475	3.428	0.4537	0.012	0.1323	10.5637	0.5389

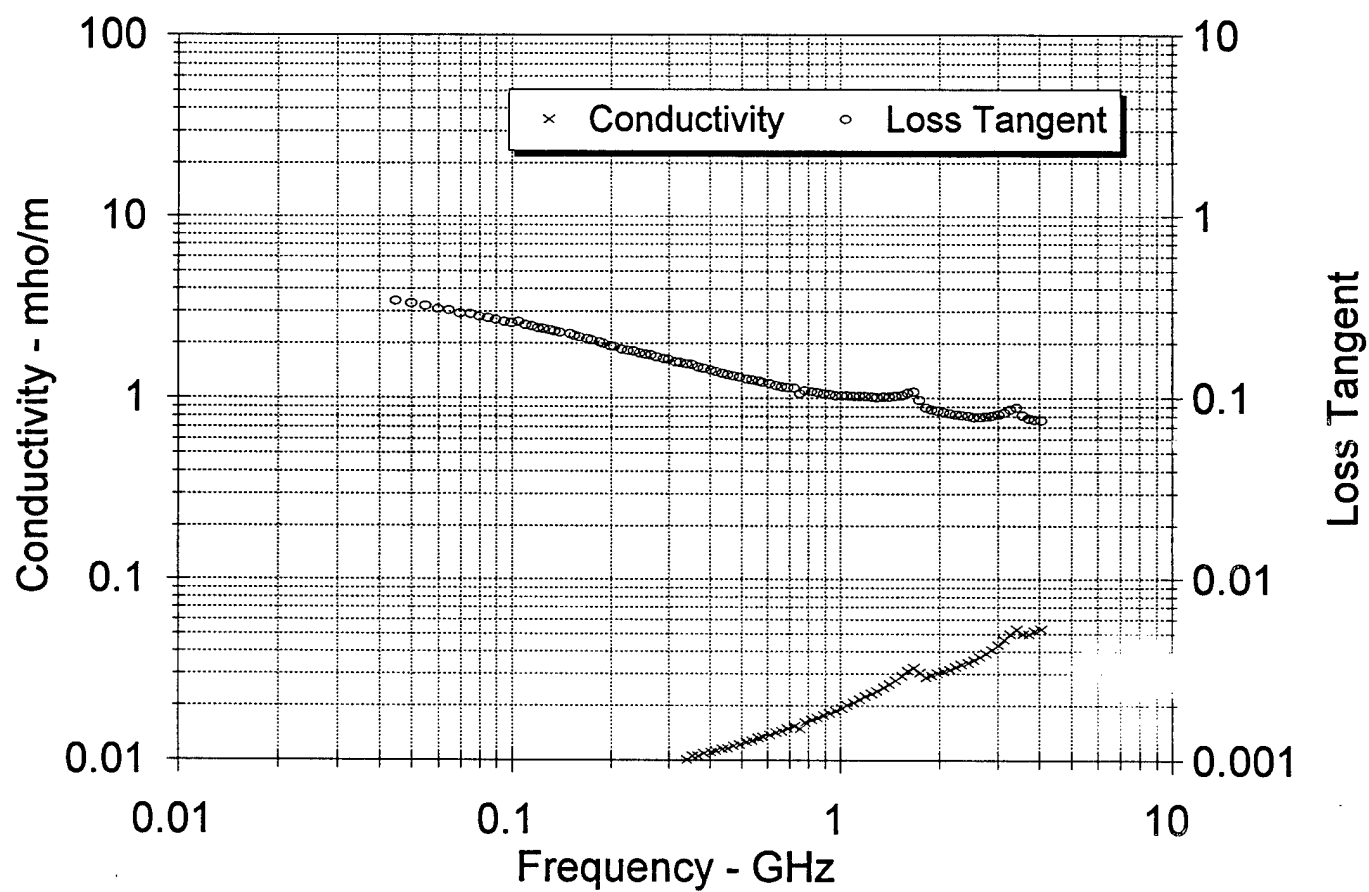


0.495	3.4214	0.4481	0.0123	0.131	10.8849	0.5395
0.52	3.4135	0.4375	0.0126	0.1282	11.1769	0.5402
0.54	3.408	0.4305	0.0129	0.1263	11.4302	0.5406
0.565	3.4016	0.4217	0.0132	0.124	11.7268	0.5412
0.585	3.3955	0.4156	0.0135	0.1224	11.9798	0.5417
0.61	3.3886	0.4082	0.0138	0.1205	12.2817	0.5423
0.64	3.3823	0.3984	0.0142	0.1178	12.5876	0.5428
0.665	3.377	0.3927	0.0145	0.1163	12.9036	0.5433
0.695	3.37	0.386	0.0149	0.1145	13.2711	0.5439
0.725	3.3642	0.3812	0.0154	0.1133	13.6832	0.5443
0.755	3.3548	0.3553	0.0149	0.1059	13.3043	0.5452
0.785	3.3541	0.3709	0.0162	0.1106	14.4384	0.5452
0.82	3.348	0.3653	0.0167	0.1091	14.8686	0.5457
0.855	3.3417	0.3597	0.0171	0.1076	15.2787	0.5462
0.895	3.3349	0.3548	0.0177	0.1064	15.7942	0.5468
0.93	3.3296	0.3503	0.0181	0.1052	16.218	0.5473
0.97	3.3229	0.3461	0.0187	0.1041	16.728	0.5478
1.015	3.3152	0.3437	0.0194	0.1037	17.4048	0.5485
1.055	3.3089	0.3405	0.02	0.1029	17.94	0.549
1.1	3.3046	0.3395	0.0208	0.1027	18.6607	0.5494
1.15	3.2985	0.3379	0.0216	0.1024	19.4348	0.5499
1.195	3.2919	0.3364	0.0224	0.1022	20.1295	0.5504
1.25	3.2835	0.334	0.0232	0.1017	20.9316	0.5511
1.3	3.2761	0.3317	0.024	0.1013	21.6441	0.5518
1.36	3.2681	0.3318	0.0251	0.1015	22.6743	0.5525
1.415	3.2605	0.3321	0.0261	0.1019	23.644	0.5531
1.475	3.252	0.3334	0.0273	0.1025	24.7752	0.5538
1.54	3.2417	0.3376	0.0289	0.1041	26.2279	0.5547
1.605	3.226	0.3449	0.0308	0.1069	27.9915	0.556
1.675	3.192	0.3451	0.0321	0.1081	29.3842	0.5589
1.745	3.1631	0.3098	0.0301	0.0979	27.6139	0.5616
1.82	3.1736	0.2828	0.0286	0.0891	26.2563	0.5608
1.9	3.1794	0.276	0.0292	0.0868	26.7248	0.5603
1.98	3.1792	0.2716	0.0299	0.0854	27.4042	0.5603
2.065	3.1772	0.2674	0.0307	0.0842	28.1543	0.5605
2.155	3.1752	0.2626	0.0315	0.0827	28.8586	0.5607
2.25	3.1745	0.2589	0.0324	0.0815	29.7095	0.5608
2.345	3.1719	0.2568	0.0335	0.081	30.7265	0.561
2.445	3.1685	0.2531	0.0344	0.0799	31.592	0.5613
2.55	3.1679	0.2502	0.0355	0.079	32.5812	0.5614
2.66	3.167	0.2502	0.037	0.079	33.9901	0.5615
2.775	3.1653	0.2505	0.0387	0.0791	35.5121	0.5616
2.89	3.1628	0.2524	0.0406	0.0798	37.2722	0.5619
3.015	3.1603	0.2568	0.0431	0.0813	39.5867	0.5621
3.145	3.1556	0.263	0.046	0.0833	42.3077	0.5624
3.28	3.145	0.273	0.0498	0.0868	45.8921	0.5634
3.42	3.1171	0.2789	0.053	0.0895	49.0982	0.5658
3.57	3.1003	0.251	0.0498	0.0809	46.245	0.5675
3.72	3.106	0.2408	0.0498	0.0775	46.1984	0.567
3.88	3.1063	0.2381	0.0514	0.0766	47.6342	0.567
4.045	3.1051	0.2355	0.053	0.0758	49.1358	0.5671

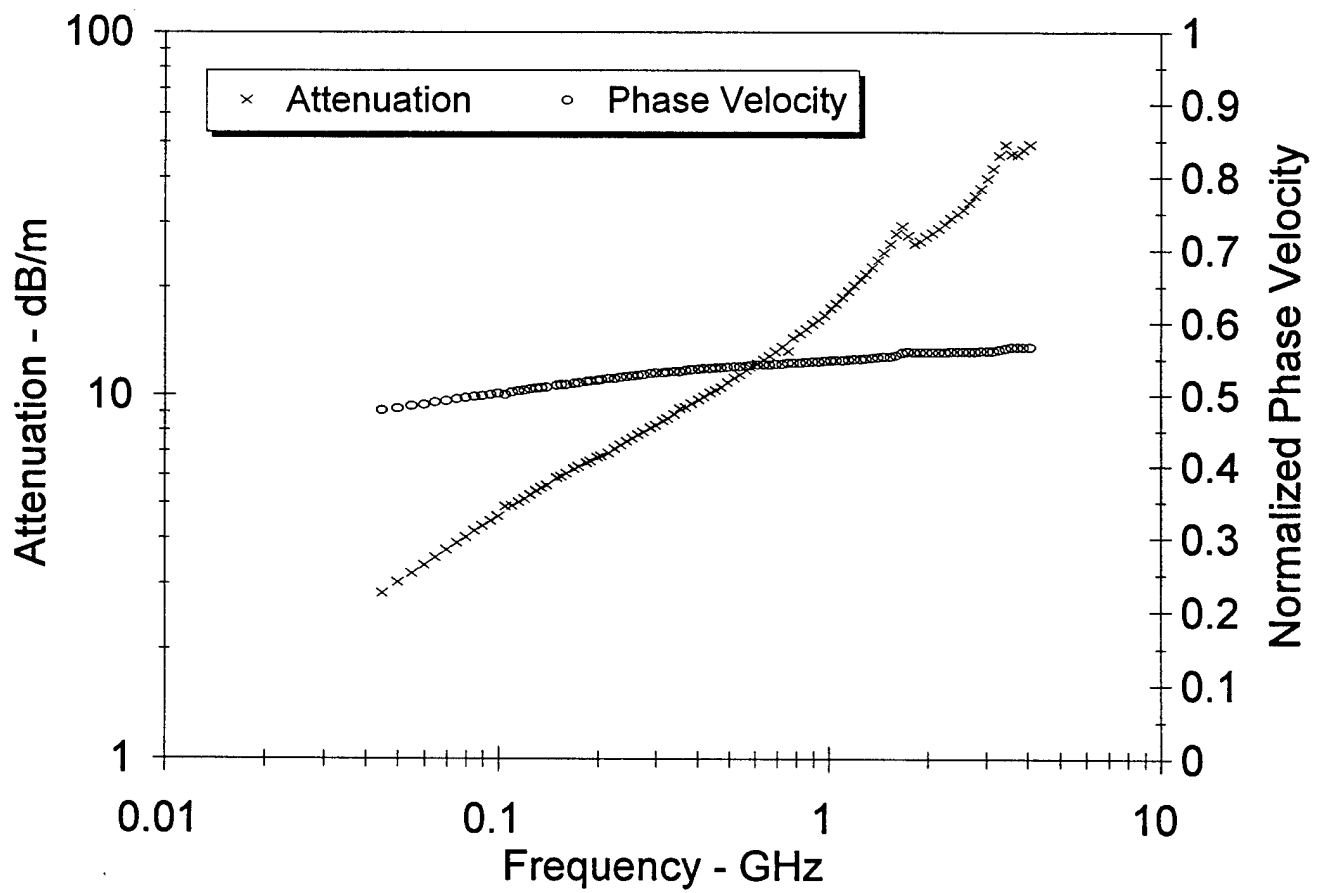
TC52.5E85.5N , File: 4SP61435  
20 deg C, Mv = 7.1%, 1.330 g/cc (dry)



TC52.5E85.5N , File: 4SP61435  
20 deg C, Mv = 7.1%, 1.330 g/cc (dry)



TC52.5E85.5N , File: 4SP61435  
20 deg C, Mv = 7.1%, 1.330 g/cc (dry)



4SP61447  
SB52.5E85.5N

4.9

4

SB52.5E85.5N , File: 4SP61447

7.7

20 deg C, Mv = 7.7%, 1.380 g/cc (dry)

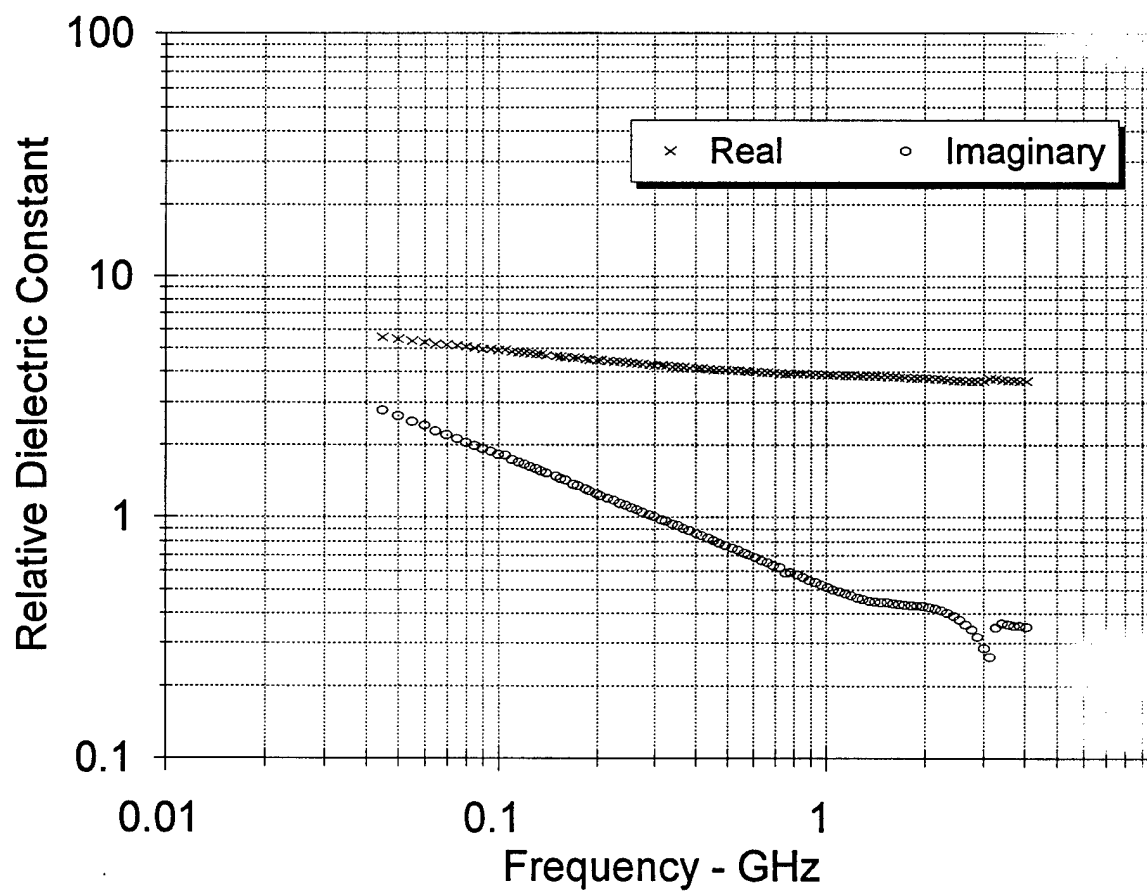
20

1.38

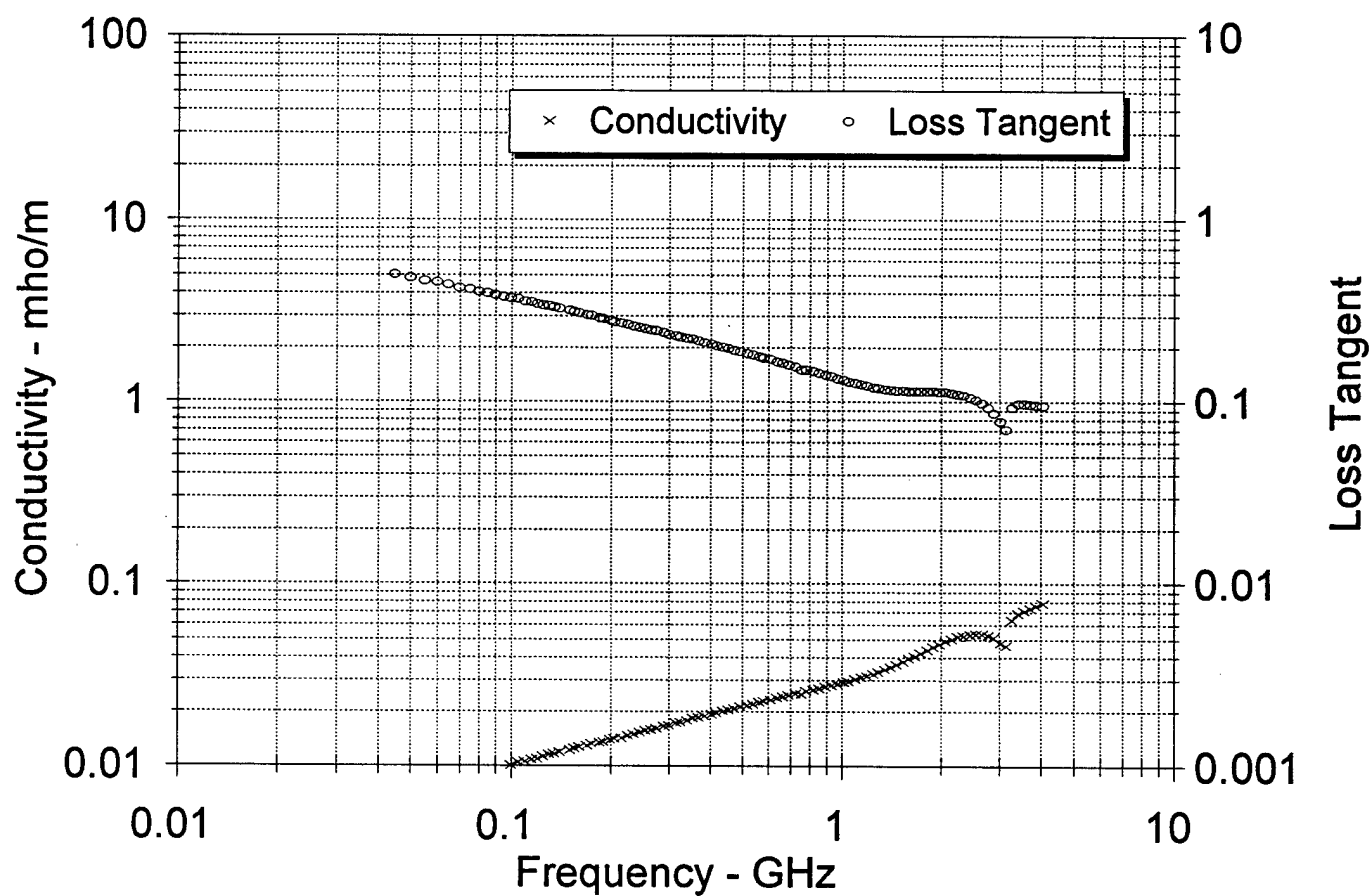
0.045	5.5229	2.7567	0.0069	0.4991	4.6661	0.4135
0.05	5.4334	2.6137	0.0073	0.481	4.9653	0.4177
0.055	5.3458	2.4811	0.0076	0.4641	5.236	0.4218
0.06	5.2783	2.3981	0.008	0.4543	5.5615	0.4249
0.065	5.2058	2.2795	0.0082	0.4379	5.7758	0.4286
0.07	5.1574	2.1785	0.0085	0.4224	5.9811	0.4312
0.075	5.1015	2.1148	0.0088	0.4145	6.2595	0.4339
0.08	5.0512	2.035	0.0091	0.4029	6.4638	0.4365
0.085	5.0092	1.9777	0.0093	0.3948	6.707	0.4386
0.09	4.9666	1.9171	0.0096	0.386	6.919	0.4409
0.095	4.9257	1.8621	0.0098	0.378	7.128	0.443
0.1	4.8907	1.8143	0.0101	0.371	7.3409	0.4448
0.105	4.8941	1.7994	0.0105	0.3677	7.644	0.4448
0.11	4.8265	1.7313	0.0106	0.3587	7.7645	0.4482
0.115	4.7968	1.6939	0.0108	0.3531	7.9705	0.4498
0.12	4.771	1.6523	0.011	0.3463	8.1389	0.4513
0.125	4.7409	1.6226	0.0113	0.3423	8.3547	0.4529
0.13	4.7157	1.5884	0.0115	0.3368	8.5321	0.4543
0.135	4.6948	1.5585	0.0117	0.332	8.7161	0.4555
0.14	4.665	1.5263	0.0119	0.3272	8.8839	0.4571
0.15	4.6234	1.4757	0.0123	0.3192	9.2498	0.4594
0.155	4.6026	1.4466	0.0125	0.3143	9.3938	0.4606
0.16	4.5812	1.4224	0.0127	0.3105	9.5593	0.4618
0.17	4.5473	1.3753	0.013	0.3024	9.8628	0.4638
0.175	4.5259	1.3518	0.0132	0.2987	10.006	0.465
0.185	4.4944	1.3093	0.0135	0.2913	10.2858	0.4669
0.19	4.4783	1.2889	0.0136	0.2878	10.4206	0.4678
0.2	4.4528	1.2529	0.0139	0.2814	10.6976	0.4694
0.205	4.4346	1.2347	0.0141	0.2784	10.8303	0.4704
0.215	4.41	1.1993	0.0143	0.2719	11.0678	0.4719
0.225	4.3906	1.176	0.0147	0.2678	11.3861	0.4731
0.235	4.3658	1.1483	0.015	0.263	11.6486	0.4746
0.245	4.3443	1.1212	0.0153	0.2581	11.8903	0.4759
0.255	4.3218	1.0972	0.0156	0.2539	12.1453	0.4773
0.265	4.3004	1.0764	0.0159	0.2503	12.4161	0.4785
0.275	4.2815	1.0558	0.0161	0.2466	12.6689	0.4797
0.29	4.2552	1.0263	0.0166	0.2412	13.0309	0.4813
0.3	4.2388	1.0072	0.0168	0.2376	13.2577	0.4824
0.315	4.2171	0.9813	0.0172	0.2327	13.6008	0.4837
0.325	4.2016	0.9636	0.0174	0.2293	13.807	0.4847
0.34	4.1839	0.9415	0.0178	0.225	14.146	0.4859
0.355	4.1773	0.9277	0.0183	0.2221	14.5686	0.4863
0.37	4.1497	0.9019	0.0186	0.2173	14.8141	0.4881
0.385	4.1362	0.8834	0.0189	0.2136	15.1262	0.489
0.405	4.1163	0.8582	0.0193	0.2085	15.4992	0.4903
0.42	4.103	0.8423	0.0197	0.2053	15.8036	0.4911
0.44	4.0852	0.8196	0.0201	0.2006	16.1483	0.4923
0.455	4.0749	0.8041	0.0203	0.1973	16.4059	0.493
0.475	4.0613	0.785	0.0207	0.1933	16.7528	0.4939

0.495	4.047	0.7693	0.0212	0.1901	17.1412	0.4949
0.52	4.0313	0.7479	0.0216	0.1855	17.5428	0.4959
0.54	4.0194	0.7326	0.022	0.1823	17.8744	0.4967
0.565	4.0054	0.7139	0.0224	0.1782	18.2593	0.4977
0.585	3.995	0.7004	0.0228	0.1753	18.5756	0.4984
0.61	3.9814	0.6841	0.0232	0.1718	18.9536	0.4993
0.64	3.9689	0.6647	0.0237	0.1675	19.3565	0.5002
0.665	3.9579	0.651	0.0241	0.1645	19.7266	0.501
0.695	3.9452	0.6348	0.0245	0.1609	20.1398	0.5019
0.725	3.9337	0.6209	0.025	0.1578	20.5815	0.5026
0.755	3.9187	0.5906	0.0248	0.1507	20.4293	0.5037
0.785	3.915	0.5925	0.0259	0.1513	21.319	0.504
0.82	3.9051	0.5772	0.0263	0.1478	21.7256	0.5047
0.855	3.8953	0.563	0.0268	0.1445	22.1269	0.5054
0.895	3.8857	0.5485	0.0273	0.1412	22.5967	0.506
0.93	3.8779	0.537	0.0278	0.1385	23.0116	0.5066
0.97	3.8693	0.5244	0.0283	0.1355	23.4697	0.5072
1.015	3.8598	0.5117	0.0289	0.1326	23.9929	0.5079
1.055	3.8546	0.5011	0.0294	0.13	24.439	0.5083
1.1	3.8501	0.4923	0.0301	0.1279	25.0497	0.5086
1.15	3.844	0.4816	0.0308	0.1253	25.645	0.5091
1.195	3.8385	0.4731	0.0314	0.1233	26.1989	0.5094
1.25	3.8319	0.4637	0.0322	0.121	26.886	0.5099
1.3	3.8265	0.456	0.033	0.1192	27.5171	0.5103
1.36	3.8219	0.4504	0.0341	0.1178	28.4493	0.5106
1.415	3.8173	0.4464	0.0351	0.1169	29.354	0.511
1.475	3.8118	0.4433	0.0364	0.1163	30.4136	0.5113
1.54	3.8043	0.4419	0.0378	0.1162	31.6842	0.5118
1.605	3.796	0.4389	0.0392	0.1156	32.8331	0.5124
1.675	3.7878	0.4352	0.0405	0.1149	34.014	0.513
1.745	3.7794	0.4333	0.042	0.1147	35.3216	0.5135
1.82	3.7699	0.4322	0.0437	0.1146	36.7879	0.5142
1.9	3.7576	0.4302	0.0454	0.1145	38.2875	0.515
1.98	3.7452	0.4271	0.047	0.114	39.679	0.5159
2.065	3.7308	0.4232	0.0486	0.1134	41.0829	0.5169
2.155	3.7164	0.4174	0.05	0.1123	42.3788	0.5179
2.25	3.7022	0.4101	0.0513	0.1108	43.5573	0.5189
2.345	3.6881	0.4008	0.0523	0.1087	44.4478	0.5199
2.445	3.6743	0.3889	0.0529	0.1058	45.0529	0.521
2.55	3.6629	0.375	0.0532	0.1024	45.3849	0.5218
2.66	3.6534	0.3588	0.0531	0.0982	45.3687	0.5226
2.775	3.647	0.3402	0.0525	0.0933	44.9214	0.5231
2.89	3.6435	0.3171	0.051	0.087	43.6242	0.5234
3.015	3.654	0.2849	0.0478	0.078	40.8403	0.5227
3.145	3.7265	0.2622	0.0459	0.0704	38.8351	0.5177
3.28	3.7323	0.3464	0.0632	0.0928	53.431	0.5171
3.42	3.6946	0.3616	0.0688	0.0979	58.453	0.5196
3.57	3.6743	0.3578	0.071	0.0974	60.5429	0.5211
3.72	3.6628	0.3542	0.0733	0.0967	62.5477	0.5219
3.88	3.6536	0.3516	0.0759	0.0962	64.8466	0.5226
4.045	3.6457	0.3495	0.0786	0.0959	67.2741	0.5231

SB52.5E85.5N , File: 4SP61447  
20 deg C, Mv = 7.7%, 1.380 g/cc (dry)

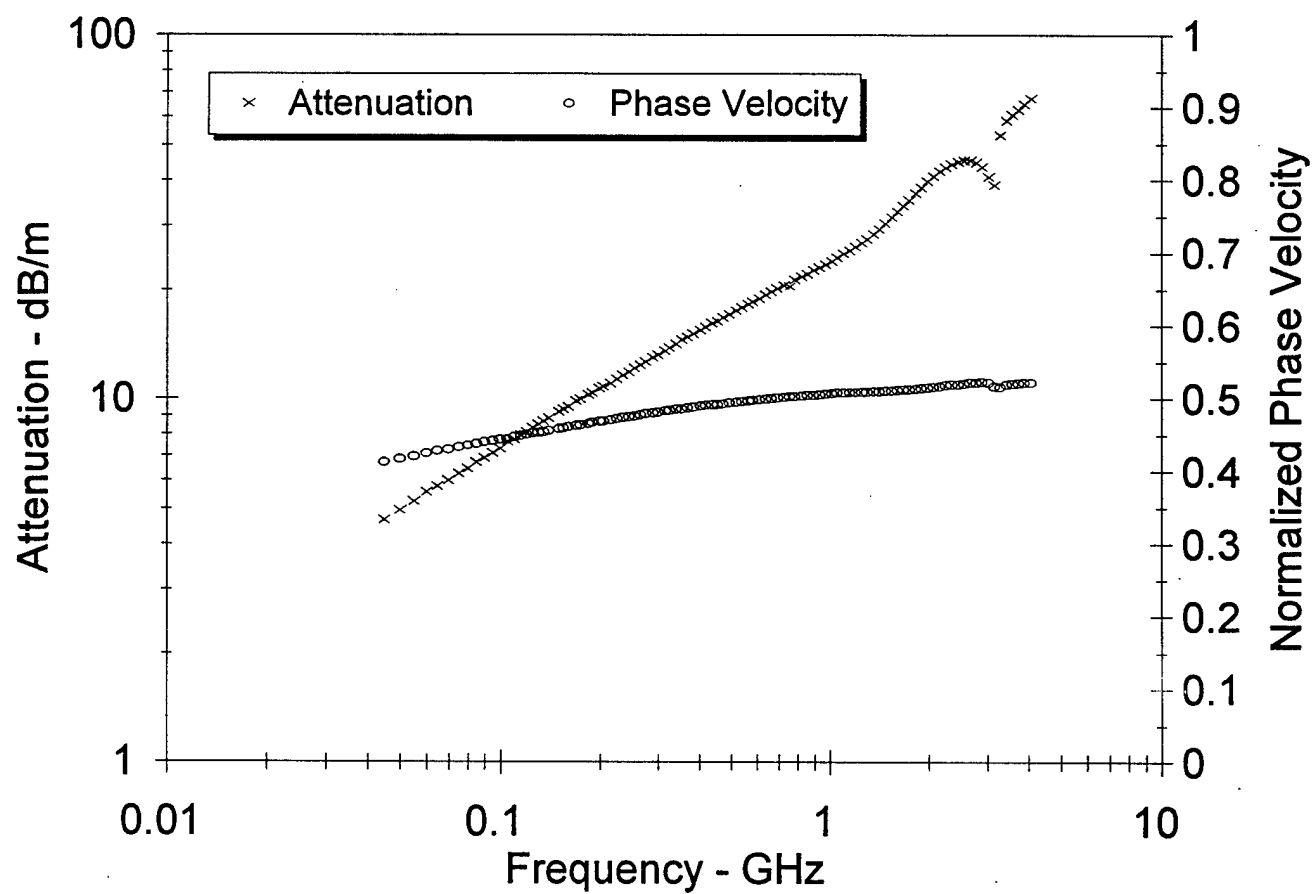


SB52.5E85.5N , File: 4SP61447  
20 deg C, Mv = 7.7%, 1.380 g/cc (dry)





SB52.5E85.5N , File: 4SP61447  
20 deg C, Mv = 7.7%, 1.380 g/cc (dry)



4SP61527  
SB40E23N

9.7

2

SB40E23N , File: 4SP61527

56.3

20 deg C, Mv = 56.3%, 1.180 g/cc (dry)

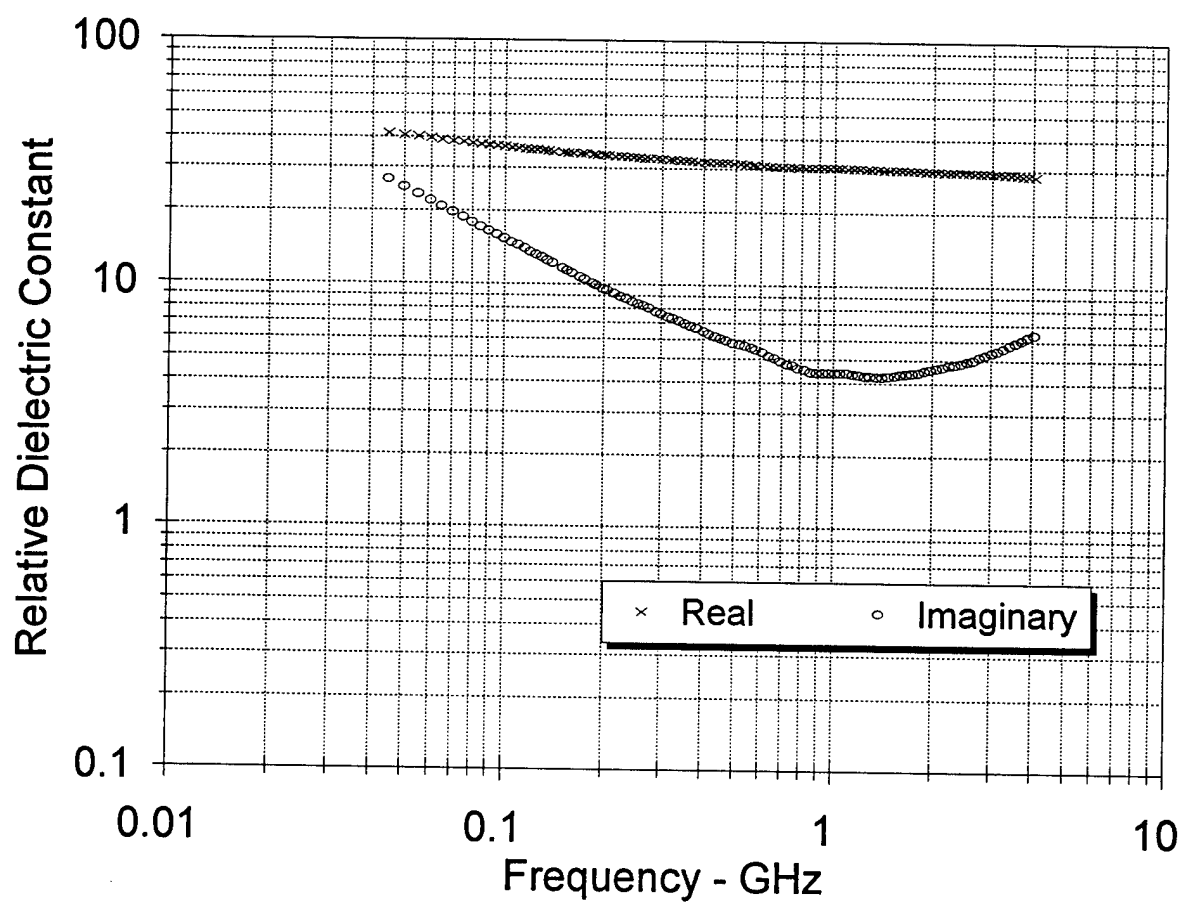
20

1.18

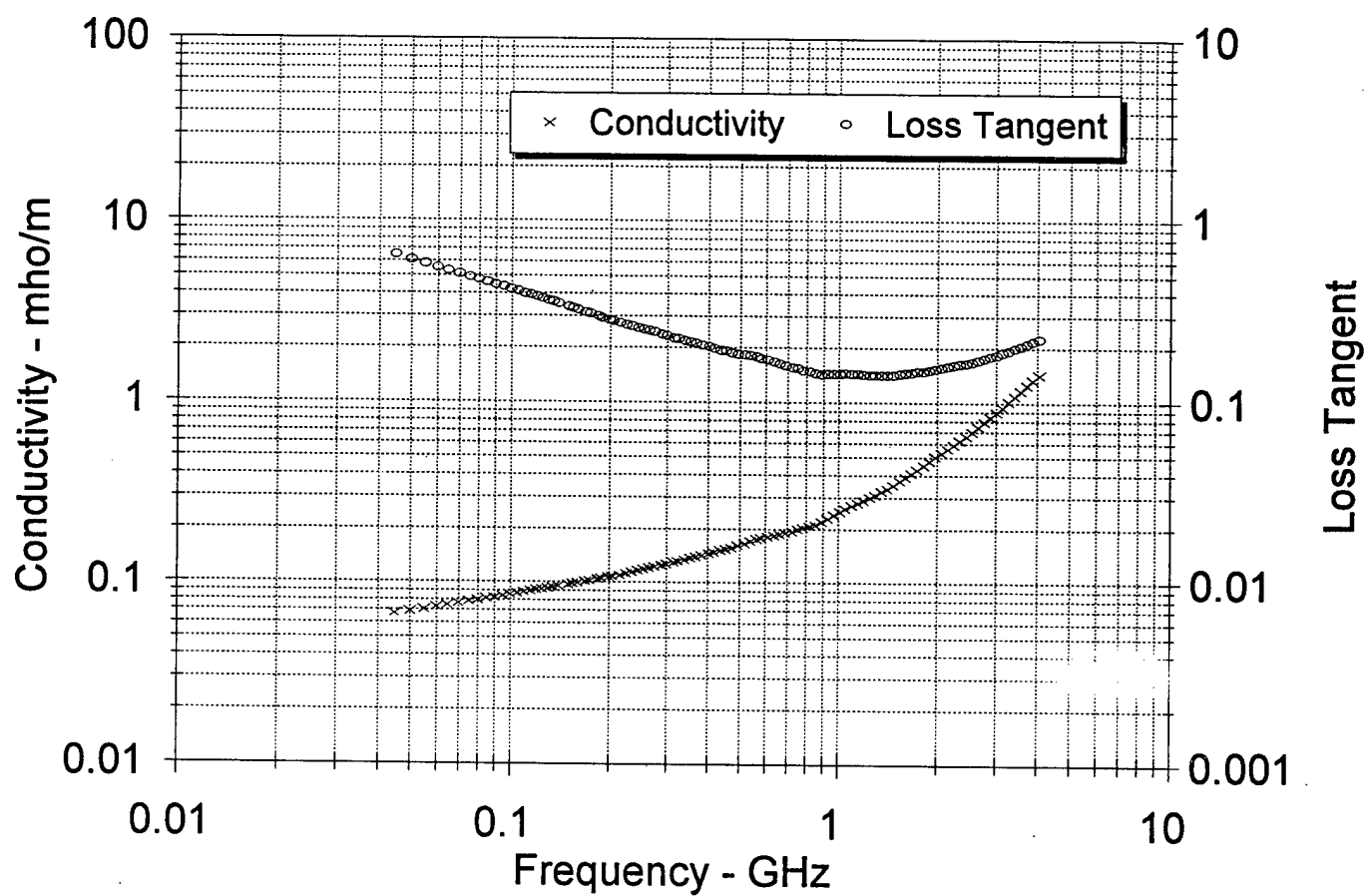
0.045	41.3213	26.6583	0.0667	0.6451	16.2214	0.1487
0.05	40.6609	24.7409	0.0688	0.6085	16.9382	0.1505
0.055	40.0061	23.1558	0.0708	0.5788	17.6421	0.1523
0.06	39.5466	21.8525	0.0729	0.5526	18.3229	0.1536
0.065	39.0033	20.6274	0.0746	0.5289	18.9169	0.1551
0.07	38.5246	19.5972	0.0763	0.5087	19.517	0.1564
0.075	38.1251	18.6987	0.078	0.4905	20.0953	0.1575
0.08	37.7439	17.8719	0.0795	0.4735	20.6263	0.1586
0.085	37.4228	17.1662	0.0811	0.4587	21.1716	0.1595
0.09	37.1155	16.5084	0.0826	0.4448	21.6766	0.1604
0.095	36.8318	15.9089	0.084	0.4319	22.162	0.1612
0.1	36.5558	15.3696	0.0855	0.4204	22.647	0.162
0.105	36.3126	14.8567	0.0867	0.4091	23.0867	0.1627
0.11	36.1008	14.4133	0.0882	0.3993	23.5539	0.1633
0.115	35.8796	13.9709	0.0893	0.3894	23.963	0.164
0.12	35.6689	13.5815	0.0906	0.3808	24.3979	0.1646
0.125	35.4962	13.205	0.0918	0.372	24.7886	0.1651
0.13	35.3244	12.8568	0.0929	0.364	25.1781	0.1656
0.135	35.1654	12.5322	0.0941	0.3564	25.5599	0.1661
0.14	35.0097	12.217	0.0951	0.349	25.9128	0.1666
0.15	34.739	11.6654	0.0973	0.3358	26.6407	0.1674
0.155	34.61	11.4048	0.0983	0.3295	26.9771	0.1678
0.16	34.4822	11.1503	0.0992	0.3234	27.2888	0.1682
0.17	34.2663	10.7007	0.1012	0.3123	27.9357	0.1688
0.175	34.1692	10.484	0.102	0.3068	28.226	0.1691
0.185	33.9943	10.0958	0.1039	0.297	28.8282	0.1697
0.19	33.9156	9.9215	0.1048	0.2925	29.1388	0.1699
0.2	33.7794	9.5891	0.1066	0.2839	29.7219	0.1704
0.205	33.7157	9.4367	0.1076	0.2799	30.017	0.1706
0.215	33.5908	9.1592	0.1095	0.2727	30.6267	0.171
0.225	33.4907	8.9188	0.1116	0.2663	31.2692	0.1713
0.235	33.3788	8.7108	0.1138	0.261	31.9616	0.1717
0.245	33.2604	8.523	0.1161	0.2563	32.6707	0.172
0.255	33.1254	8.3454	0.1183	0.2519	33.372	0.1724
0.265	32.9958	8.1688	0.1204	0.2476	34.0224	0.1728
0.275	32.8771	7.98	0.122	0.2427	34.5621	0.1732
0.29	32.7397	7.7167	0.1244	0.2357	35.333	0.1736
0.3	32.6632	7.5645	0.1262	0.2316	35.8806	0.1738
0.315	32.5481	7.3654	0.129	0.2263	36.7585	0.1742
0.325	32.4744	7.2454	0.1309	0.2231	37.3561	0.1744
0.34	32.3603	7.0767	0.1338	0.2187	38.2469	0.1748
0.355	32.2491	6.9155	0.1365	0.2144	39.1007	0.1751
0.37	32.1401	6.7705	0.1393	0.2107	39.9732	0.1754
0.385	32.0339	6.6216	0.1418	0.2067	40.7546	0.1758
0.405	31.9091	6.436	0.1449	0.2017	41.7622	0.1761
0.42	31.8238	6.3069	0.1473	0.1982	42.5044	0.1764
0.44	31.72	6.1462	0.1504	0.1938	43.4739	0.1767
0.455	31.6558	6.0364	0.1527	0.1907	44.204	0.1769
0.475	31.5794	5.9035	0.1559	0.1869	45.1927	0.1772

0.495	31.5125	5.7996	0.1596	0.184	46.3224	0.1774
0.52	31.4229	5.7085	0.1651	0.1817	47.9703	0.1777
0.54	31.3185	5.656	0.1698	0.1806	49.4422	0.178
0.565	31.1512	5.553	0.1745	0.1783	50.9301	0.1785
0.585	31.0399	5.4375	0.1769	0.1752	51.7361	0.1788
0.61	30.9347	5.2971	0.1797	0.1712	52.6518	0.1791
0.64	30.8289	5.1478	0.1832	0.167	53.7855	0.1795
0.665	30.7542	5.0257	0.1858	0.1634	54.6349	0.1797
0.695	30.6848	4.8902	0.189	0.1594	55.6328	0.18
0.725	30.6404	4.7658	0.1921	0.1555	56.6062	0.1801
0.755	30.6138	4.7057	0.1976	0.1537	58.2348	0.1802
0.785	30.5923	4.5962	0.2006	0.1502	59.1686	0.1803
0.82	30.5398	4.5193	0.2061	0.148	60.8301	0.1805
0.855	30.5201	4.416	0.21	0.1447	62.0034	0.1805
0.895	30.5502	4.3716	0.2176	0.1431	64.2239	0.1805
0.93	30.5423	4.3807	0.2265	0.1434	66.8816	0.1805
0.97	30.497	4.3918	0.2369	0.144	69.9859	0.1806
1.015	30.427	4.3921	0.2479	0.1443	73.3207	0.1808
1.055	30.3571	4.3829	0.2571	0.1444	76.139	0.181
1.1	30.2758	4.3653	0.267	0.1442	79.1744	0.1813
1.15	30.1917	4.3348	0.2772	0.1436	82.3114	0.1815
1.195	30.1326	4.3024	0.2859	0.1428	84.9768	0.1817
1.25	30.0817	4.2734	0.297	0.1421	88.3659	0.1819
1.3	30.045	4.2548	0.3076	0.1416	91.5576	0.182
1.36	30.0052	4.2483	0.3213	0.1416	95.7017	0.1821
1.415	29.9691	4.2462	0.3341	0.1417	99.5828	0.1822
1.475	29.9429	4.258	0.3492	0.1422	104.136	0.1823
1.54	29.9045	4.2891	0.3673	0.1434	109.5858	0.1824
1.605	29.8571	4.322	0.3857	0.1448	115.1736	0.1825
1.675	29.8058	4.3582	0.4059	0.1462	121.2993	0.1827
1.745	29.7558	4.3909	0.4261	0.1476	127.4187	0.1828
1.82	29.7048	4.4315	0.4485	0.1492	134.2308	0.183
1.9	29.6529	4.4863	0.474	0.1513	141.9774	0.1831
1.98	29.5923	4.5457	0.5005	0.1536	150.0537	0.1833
2.065	29.5221	4.5974	0.5279	0.1557	158.4529	0.1835
2.155	29.4603	4.6569	0.558	0.1581	167.6598	0.1837
2.25	29.3864	4.7211	0.5907	0.1607	177.669	0.1839
2.345	29.3157	4.7792	0.6232	0.163	187.6565	0.1841
2.445	29.26	4.8242	0.6559	0.1649	197.6735	0.1842
2.55	29.2251	4.8938	0.6939	0.1675	209.2382	0.1843
2.66	29.1838	4.9933	0.7386	0.1711	222.8272	0.1844
2.775	29.1227	5.1048	0.7877	0.1753	237.86	0.1846
2.89	29.0587	5.2084	0.837	0.1792	252.9774	0.1848
3.015	28.9907	5.317	0.8914	0.1834	269.6903	0.185
3.145	28.9277	5.4403	0.9514	0.1881	288.0957	0.1851
3.28	28.8603	5.5769	1.0172	0.1932	308.2909	0.1853
3.42	28.7836	5.7231	1.0884	0.1988	330.2263	0.1855
3.57	28.6932	5.8795	1.1672	0.2049	354.5797	0.1857
3.72	28.5953	6.0355	1.2485	0.2111	379.8187	0.186
3.88	28.4918	6.1999	1.3376	0.2176	407.5404	0.1863
4.045	28.3867	6.3587	1.4302	0.224	436.4141	0.1865

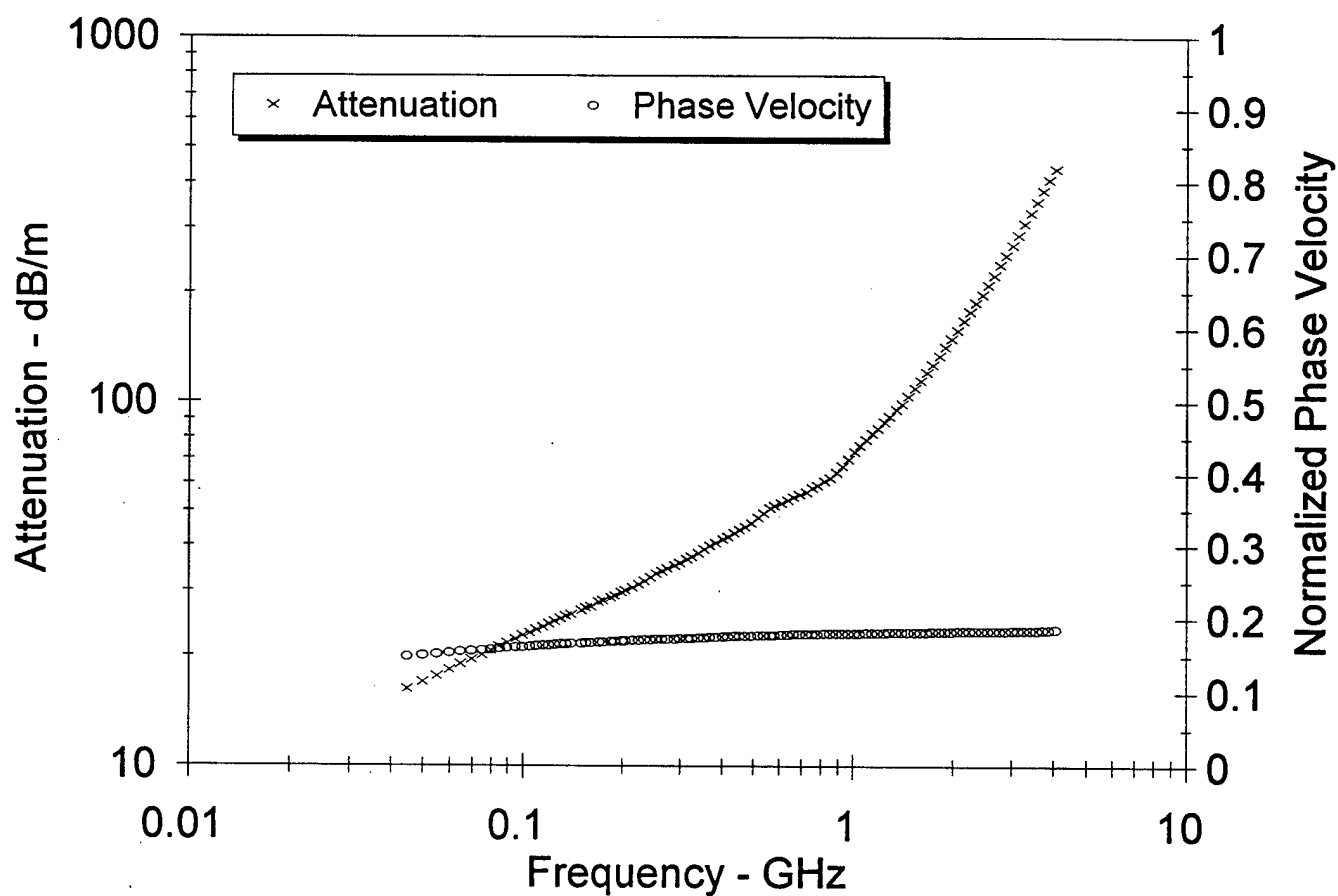
SB40E23N , File: 4SP61527  
20 deg C, Mv = 56.3%, 1.180 g/cc (dry)



SB40E23N , File: 4SP61527  
20 deg C, Mv = 56.3%, 1.180 g/cc (dry)



SB40E23N , File: 4SP61527  
20 deg C, Mv = 56.3%, 1.180 g/cc (dry)



4SP61533  
TC77.5E60.5N

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45.3

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1.28

TC77.5E60.5N , File: 4SP61533

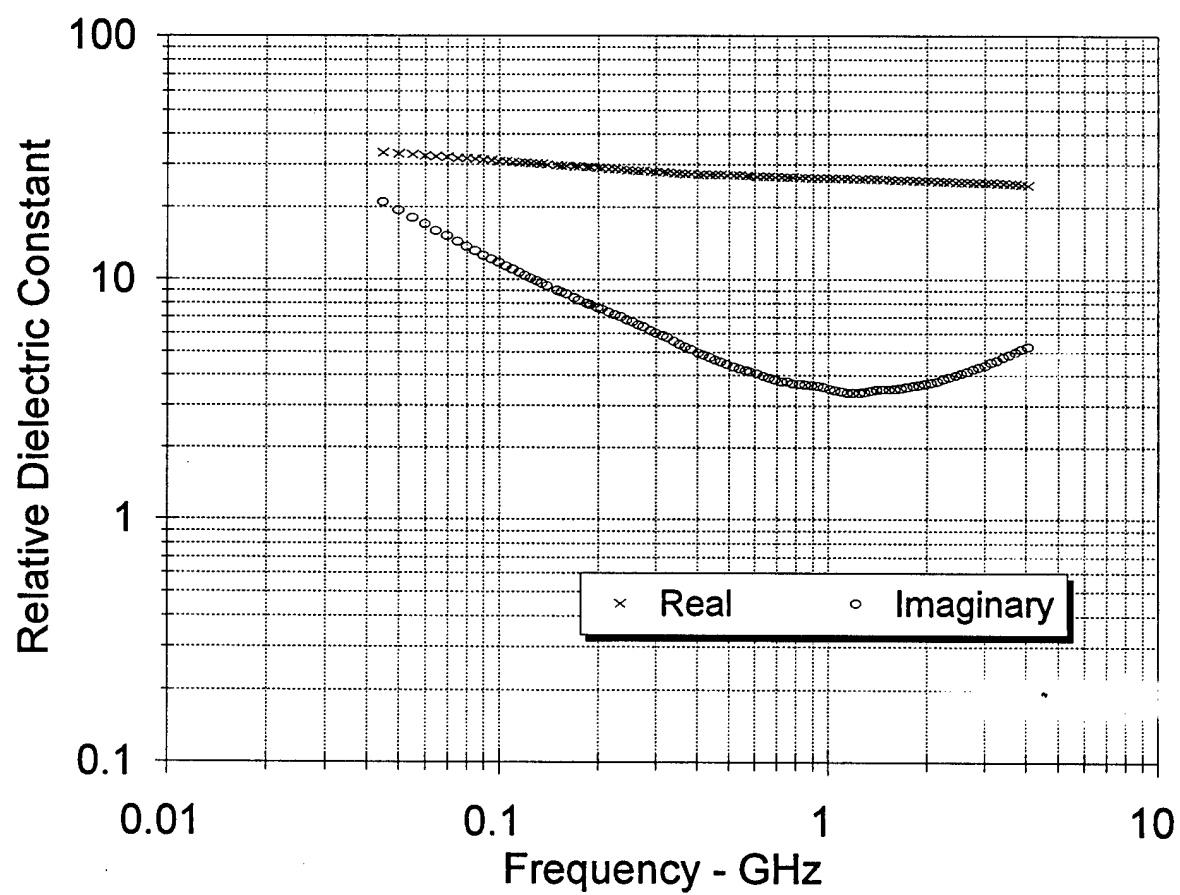
20 deg C, Mv = 45.3%, 1.280 g/cc (dry)

0.045	33.5522	20.8657	0.0522	0.6219	14.1304	0.1654
0.05	33.2225	19.2767	0.0536	0.5802	14.6489	0.1671
0.055	32.8696	17.9423	0.0549	0.5459	15.138	0.1686
0.06	32.5436	16.8943	0.0564	0.5191	15.6734	0.17
0.065	32.334	15.8973	0.0575	0.4917	16.076	0.171
0.07	32.09	15.054	0.0586	0.4691	16.4946	0.1721
0.075	31.8331	14.3179	0.0597	0.4498	16.9088	0.1731
0.08	31.6073	13.6733	0.0608	0.4326	17.3141	0.174
0.085	31.427	13.0958	0.0619	0.4167	17.6961	0.1748
0.09	31.2512	12.5884	0.063	0.4028	18.0845	0.1755
0.095	31.0902	12.1227	0.064	0.3899	18.4517	0.1761
0.1	30.9155	11.7082	0.0651	0.3787	18.8298	0.1768
0.105	30.7604	11.318	0.0661	0.3679	19.1781	0.1774
0.11	30.6369	10.9898	0.0672	0.3587	19.5628	0.1779
0.115	30.4975	10.6579	0.0682	0.3495	19.8946	0.1785
0.12	30.3664	10.3811	0.0693	0.3419	20.2762	0.1789
0.125	30.2547	10.0986	0.0702	0.3338	20.5971	0.1794
0.13	30.1425	9.844	0.0712	0.3266	20.9314	0.1798
0.135	30.029	9.6183	0.0722	0.3203	21.2881	0.1802
0.14	29.9284	9.3992	0.0732	0.3141	21.62	0.1806
0.15	29.7362	9.0124	0.0752	0.3031	22.3002	0.1814
0.155	29.6468	8.8366	0.0762	0.2981	22.6361	0.1817
0.16	29.5517	8.6745	0.0772	0.2935	22.9817	0.182
0.17	29.3776	8.3641	0.0791	0.2847	23.6282	0.1827
0.175	29.2954	8.2186	0.08	0.2805	23.9402	0.183
0.185	29.1414	7.9585	0.0819	0.2731	24.584	0.1836
0.19	29.0672	7.8409	0.0828	0.2698	24.9123	0.1838
0.2	28.9319	7.6127	0.0847	0.2631	25.5305	0.1844
0.205	28.866	7.514	0.0857	0.2603	25.8636	0.1846
0.215	28.7293	7.3197	0.0875	0.2548	26.4954	0.1851
0.225	28.6143	7.1399	0.0893	0.2495	27.1097	0.1855
0.235	28.4834	6.9784	0.0912	0.245	27.745	0.186
0.245	28.3639	6.8107	0.0928	0.2401	28.2979	0.1864
0.255	28.241	6.6551	0.0944	0.2357	28.8499	0.1869
0.265	28.1299	6.5004	0.0958	0.2311	29.3495	0.1873
0.275	28.0342	6.3435	0.097	0.2263	29.7807	0.1877
0.29	27.9161	6.1317	0.0989	0.2196	30.4312	0.1881
0.3	27.8419	6.0101	0.1003	0.2159	30.9036	0.1884
0.315	27.7262	5.8397	0.1023	0.2106	31.6033	0.1889
0.325	27.6502	5.7268	0.1035	0.2071	32.0258	0.1892
0.34	27.5521	5.5588	0.1051	0.2018	32.5873	0.1896
0.355	27.4609	5.3978	0.1066	0.1966	33.1025	0.1899
0.37	27.3909	5.2522	0.1081	0.1917	33.621	0.1902
0.385	27.326	5.1146	0.1095	0.1872	34.1151	0.1905
0.405	27.2544	4.9525	0.1115	0.1817	34.8045	0.1908
0.42	27.2048	4.8461	0.1132	0.1781	35.3556	0.191
0.44	27.1394	4.7209	0.1155	0.1739	36.1323	0.1912
0.455	27.0934	4.6351	0.1173	0.1711	36.7209	0.1914
0.475	27.0397	4.5296	0.1196	0.1675	37.505	0.1916

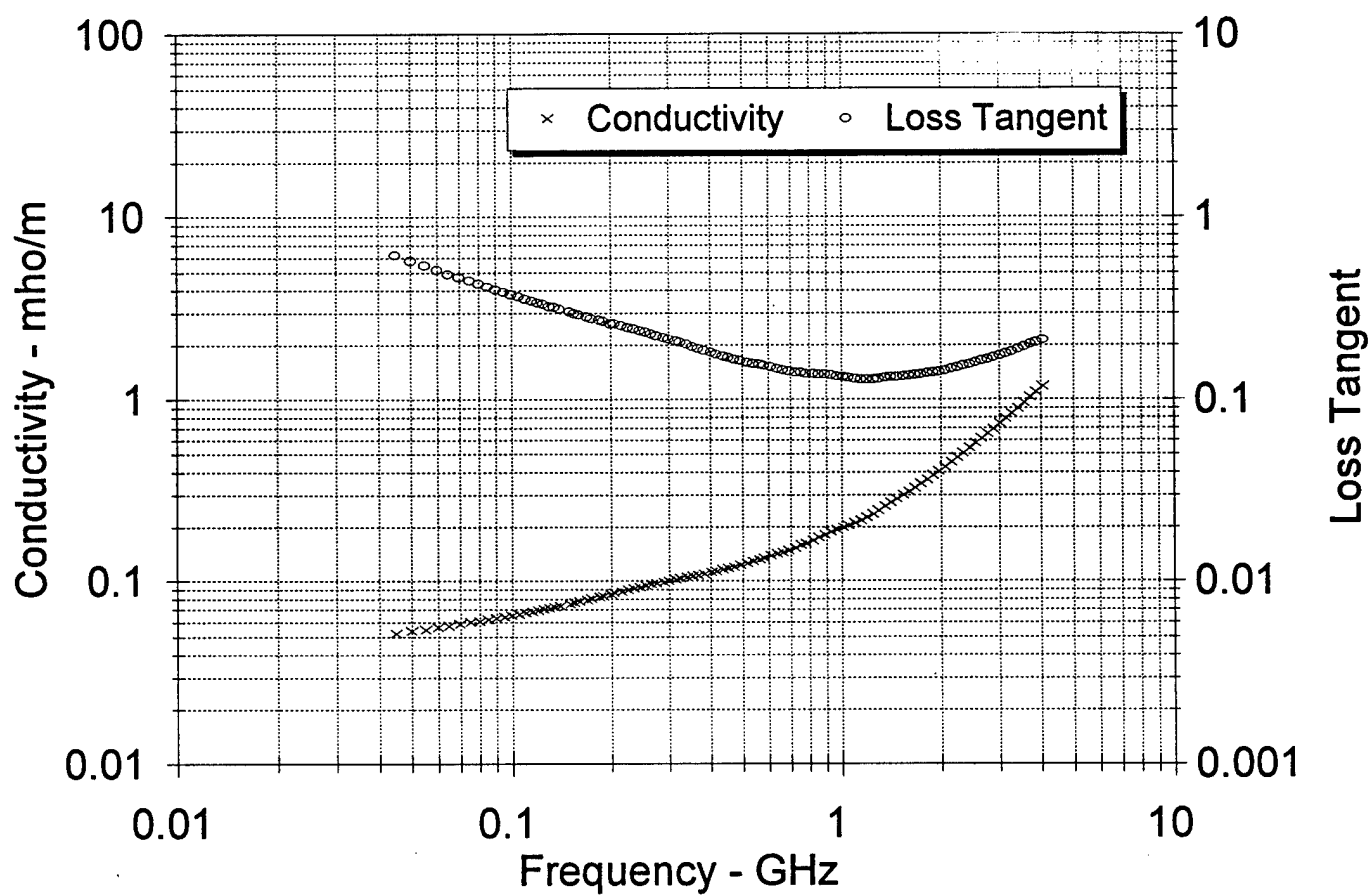
0.495	26.9873	4.4379	0.1222	0.1644	38.3349	0.1919
0.52	26.9297	4.3331	0.1253	0.1609	39.3675	0.1921
0.54	26.8838	4.2595	0.1279	0.1584	40.2254	0.1923
0.565	26.8298	4.1795	0.1313	0.1558	41.3432	0.1925
0.585	26.7856	4.1238	0.1341	0.154	42.2732	0.1927
0.61	26.7214	4.0535	0.1375	0.1517	43.3843	0.1929
0.64	26.6549	3.9622	0.141	0.1486	44.5532	0.1932
0.665	26.6154	3.889	0.1438	0.1461	45.4763	0.1933
0.695	26.5782	3.818	0.1476	0.1437	46.6973	0.1935
0.725	26.5475	3.7621	0.1517	0.1417	48.031	0.1936
0.755	26.5104	3.7559	0.1577	0.1417	49.9708	0.1937
0.785	26.4861	3.6915	0.1611	0.1394	51.0926	0.1938
0.82	26.4402	3.668	0.1673	0.1387	53.0784	0.194
0.855	26.3843	3.6507	0.1736	0.1384	55.1415	0.1942
0.895	26.3166	3.6254	0.1804	0.1378	57.3957	0.1945
0.93	26.2545	3.5961	0.186	0.137	59.23	0.1947
0.97	26.1895	3.5498	0.1915	0.1355	61.0615	0.195
1.015	26.137	3.4924	0.1971	0.1336	62.9281	0.1952
1.055	26.1046	3.447	0.2022	0.132	64.601	0.1953
1.1	26.0777	3.4081	0.2085	0.1307	66.633	0.1954
1.15	26.0606	3.3828	0.2163	0.1298	69.1694	0.1955
1.195	26.048	3.3751	0.2243	0.1296	71.73	0.1955
1.25	26.031	3.3821	0.2351	0.1299	75.2108	0.1956
1.3	26.0099	3.3991	0.2457	0.1307	78.644	0.1957
1.36	25.9727	3.4282	0.2593	0.132	83.0326	0.1958
1.415	25.9272	3.458	0.2721	0.1334	87.2149	0.196
1.475	25.8697	3.4791	0.2854	0.1345	91.566	0.1962
1.54	25.8173	3.4886	0.2987	0.1351	95.9579	0.1964
1.605	25.7764	3.4986	0.3122	0.1357	100.3717	0.1965
1.675	25.7453	3.5188	0.3277	0.1367	105.4145	0.1966
1.745	25.7129	3.5538	0.3448	0.1382	110.9744	0.1967
1.82	25.6636	3.5938	0.3637	0.14	117.1536	0.1969
1.9	25.613	3.6252	0.383	0.1415	123.4855	0.1971
1.98	25.5787	3.6614	0.4031	0.1431	130.0509	0.1972
2.065	25.5433	3.7078	0.4258	0.1452	137.4391	0.1973
2.155	25.509	3.7677	0.4515	0.1477	145.8275	0.1975
2.25	25.4686	3.8374	0.4801	0.1507	155.1827	0.1976
2.345	25.4207	3.9162	0.5107	0.1541	165.1893	0.1978
2.445	25.3591	3.9909	0.5426	0.1574	175.7067	0.198
2.55	25.3011	4.0593	0.5756	0.1604	186.5867	0.1982
2.66	25.2529	4.1315	0.6111	0.1636	198.2623	0.1983
2.775	25.2028	4.2153	0.6504	0.1673	211.2042	0.1985
2.89	25.1509	4.3037	0.6916	0.1711	224.7669	0.1987
3.015	25.0915	4.3996	0.7376	0.1753	239.9533	0.1989
3.145	25.0327	4.5024	0.7874	0.1799	256.4009	0.1991
3.28	24.9752	4.6101	0.8408	0.1846	274.0624	0.1993
3.42	24.9146	4.7304	0.8996	0.1899	293.5009	0.1995
3.57	24.8421	4.8648	0.9657	0.1958	315.4475	0.1997
3.72	24.7645	4.9921	1.0326	0.2016	337.7394	0.1999
3.88	24.6784	5.1226	1.1052	0.2076	361.9949	0.2002
4.045	24.5934	5.2581	1.1827	0.2138	387.9155	0.2005



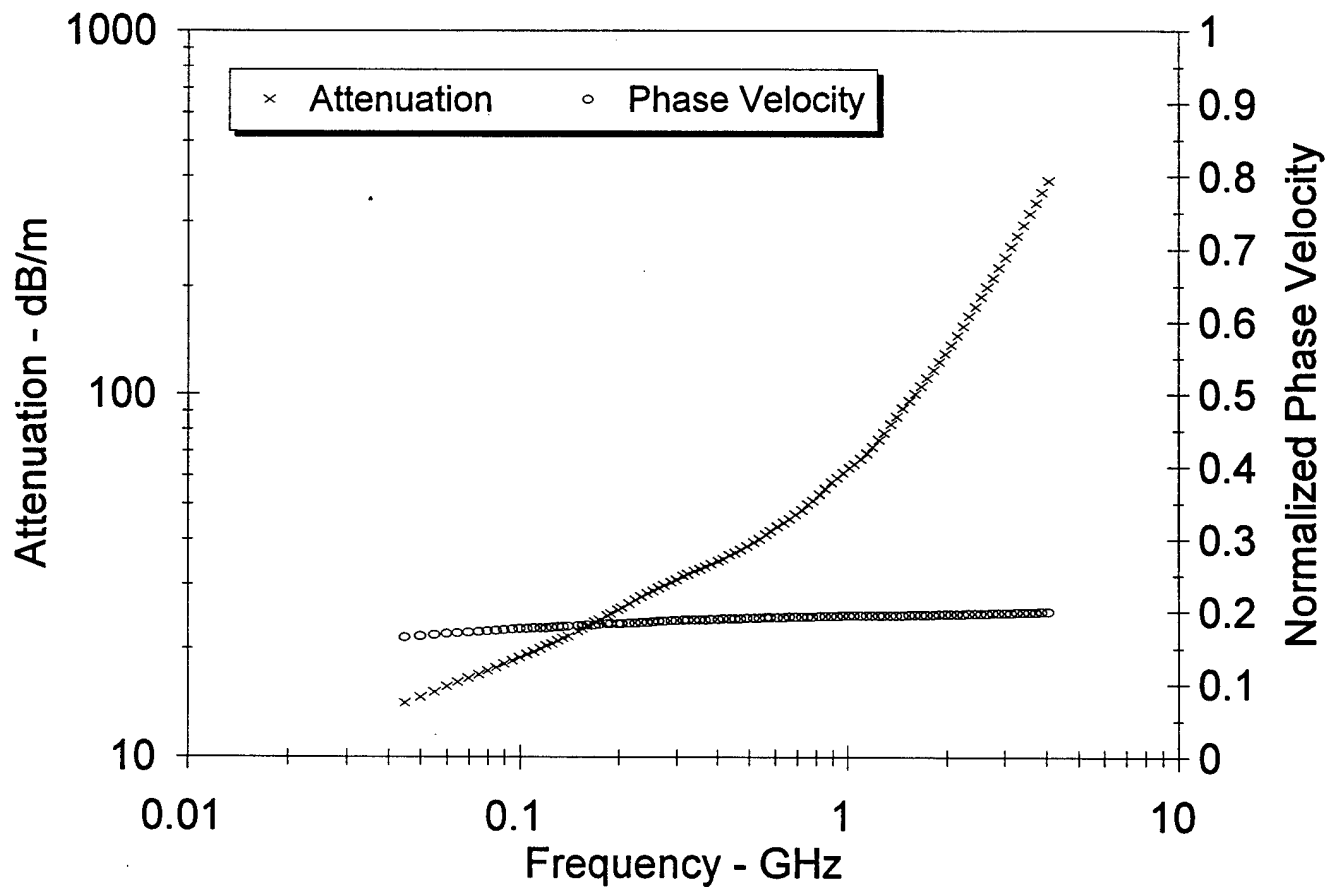
TC77.5E60.5N , File: 4SP61533  
20 deg C, Mv = 45.3%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 4SP61533  
20 deg C, Mv = 45.3%, 1.280 g/cc (dry)



TC77.5E60.5N , File: 4SP61533  
20 deg C, Mv = 45.3%, 1.280 g/cc (dry)



4SP61540  
TC65E10.5N

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46.3

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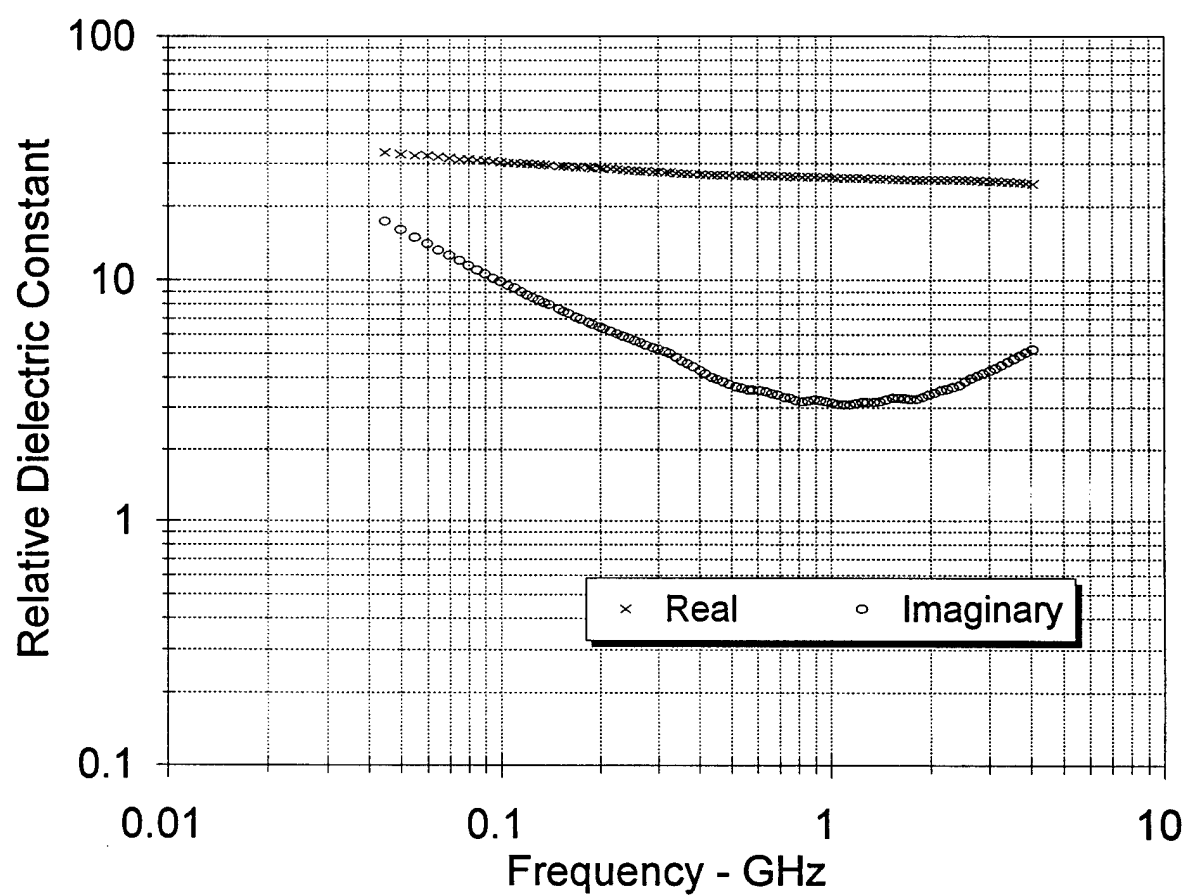
1.3

TC65E10.5N , File: 4SP61540  
20 deg C, Mv = 46.3%, 1.300 g/cc (dry)

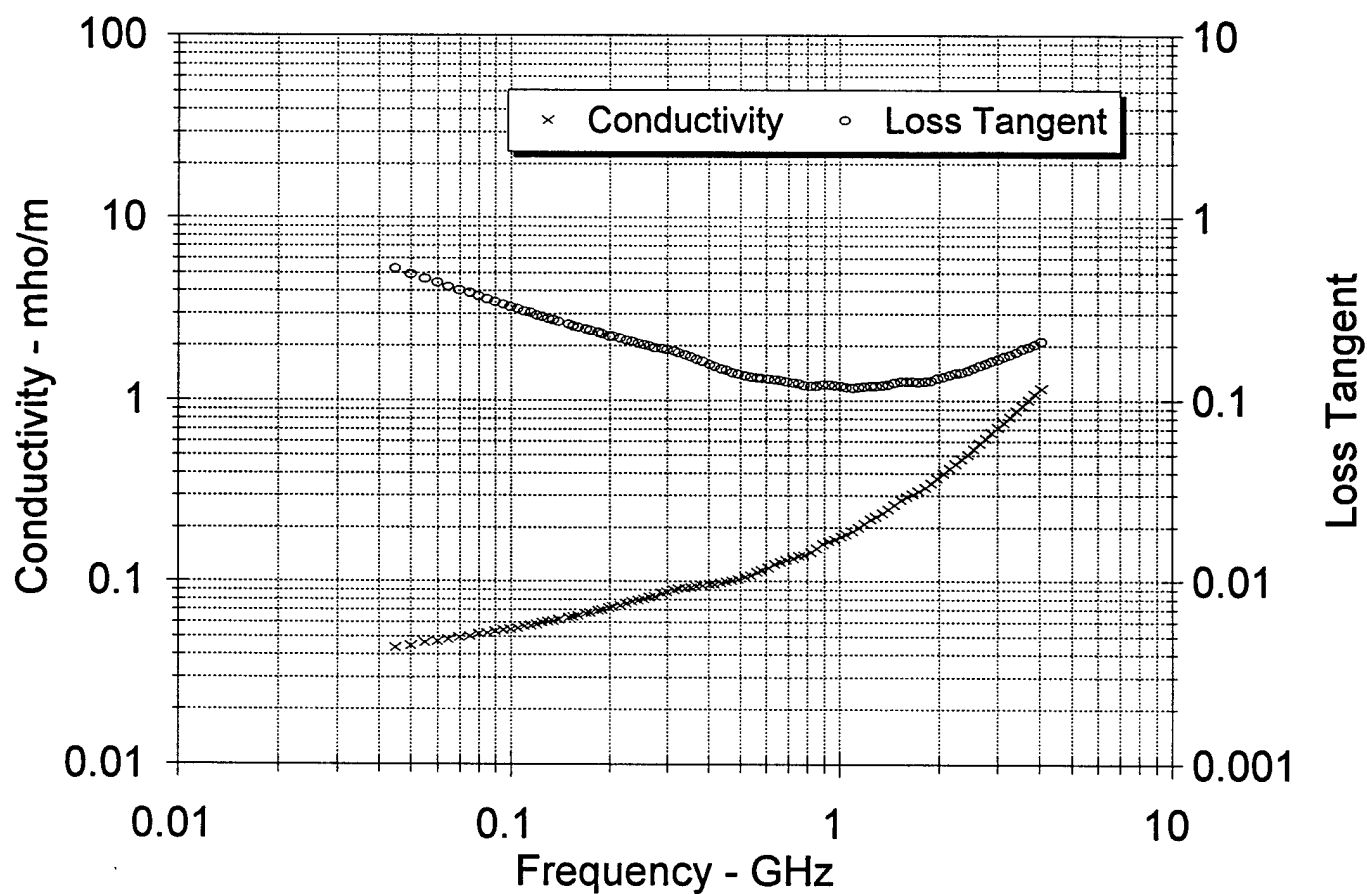
0.045	33.1268	17.3608	0.0434	0.5241	11.9664	0.1684
0.05	32.7345	16.0539	0.0446	0.4904	12.4129	0.17
0.055	32.3421	15.0023	0.0459	0.4639	12.8719	0.1715
0.06	32.0831	14.0661	0.0469	0.4384	13.2518	0.1726
0.065	31.7333	13.306	0.0481	0.4193	13.6797	0.1739
0.07	31.4824	12.6474	0.0492	0.4017	14.081	0.1749
0.075	31.2149	12.0457	0.0502	0.3859	14.4507	0.1759
0.08	31.0188	11.5225	0.0513	0.3715	14.8094	0.1766
0.085	30.8086	11.0269	0.0521	0.3579	15.1264	0.1774
0.09	30.614	10.6093	0.0531	0.3465	15.4727	0.1782
0.095	30.449	10.221	0.054	0.3357	15.7907	0.1788
0.1	30.2812	9.8688	0.0549	0.3259	16.1055	0.1794
0.105	30.1021	9.5176	0.0556	0.3162	16.3693	0.1801
0.11	30.0103	9.2705	0.0567	0.3089	16.7378	0.1805
0.115	29.8771	8.9941	0.0575	0.301	17.0242	0.181
0.12	29.7534	8.7372	0.0583	0.2937	17.3018	0.1814
0.125	29.6485	8.5244	0.0593	0.2875	17.6223	0.1818
0.13	29.5442	8.3143	0.0601	0.2814	17.9142	0.1822
0.135	29.445	8.1167	0.0609	0.2757	18.1986	0.1826
0.14	29.3509	7.9324	0.0618	0.2703	18.48	0.1829
0.15	29.1795	7.6069	0.0634	0.2607	19.0548	0.1836
0.155	29.0987	7.4611	0.0643	0.2564	19.3444	0.1839
0.16	29.0119	7.3215	0.0651	0.2524	19.629	0.1842
0.17	28.859	7.0637	0.0668	0.2448	20.1837	0.1848
0.175	28.7898	6.9405	0.0675	0.2411	20.444	0.1851
0.185	28.6545	6.7229	0.0692	0.2346	20.9915	0.1856
0.19	28.5951	6.6266	0.07	0.2317	21.2756	0.1858
0.2	28.4809	6.4433	0.0717	0.2262	21.8263	0.1862
0.205	28.4205	6.3571	0.0725	0.2237	22.099	0.1864
0.215	28.3099	6.1981	0.0741	0.2189	22.6473	0.1868
0.225	28.2046	6.0497	0.0757	0.2145	23.1816	0.1872
0.235	28.1068	5.9166	0.0773	0.2105	23.7251	0.1876
0.245	28.0126	5.7845	0.0788	0.2065	24.228	0.188
0.255	27.9149	5.6583	0.0802	0.2027	24.7146	0.1883
0.265	27.8345	5.5413	0.0817	0.1991	25.1936	0.1886
0.275	27.7646	5.4323	0.0831	0.1957	25.6665	0.1889
0.29	27.6611	5.3082	0.0856	0.1919	26.5019	0.1893
0.3	27.5701	5.2396	0.0874	0.19	27.1089	0.1896
0.315	27.4188	5.1129	0.0896	0.1865	27.857	0.1902
0.325	27.3231	5.0131	0.0906	0.1835	28.2335	0.1905
0.34	27.2082	4.8556	0.0918	0.1785	28.6752	0.191
0.355	27.0971	4.6906	0.0926	0.1731	28.9889	0.1914
0.37	27.0338	4.5585	0.0938	0.1686	29.4024	0.1917
0.385	26.9678	4.4234	0.0947	0.164	29.7297	0.1919
0.405	26.8989	4.2567	0.0959	0.1582	30.1407	0.1922
0.42	26.8577	4.1448	0.0968	0.1543	30.4639	0.1924
0.44	26.8141	4.0145	0.0982	0.1497	30.9413	0.1926
0.455	26.7872	3.9286	0.0994	0.1467	31.3307	0.1927
0.475	26.7603	3.8254	0.101	0.143	31.8693	0.1928

0.495	26.7395	3.739	0.1029	0.1398	32.4767	0.1929
0.52	26.723	3.6546	0.1057	0.1368	33.3604	0.193
0.54	26.7094	3.6032	0.1082	0.1349	34.1675	0.1931
0.565	26.6859	3.5596	0.1118	0.1334	35.3344	0.1932
0.585	26.66	3.5348	0.115	0.1326	36.3483	0.1933
0.61	26.6139	3.5114	0.1191	0.1319	37.684	0.1934
0.64	26.5417	3.4768	0.1237	0.131	39.2024	0.1937
0.665	26.4784	3.4359	0.1271	0.1298	40.3048	0.1939
0.695	26.4086	3.3761	0.1305	0.1278	41.4463	0.1942
0.725	26.3605	3.3088	0.1334	0.1255	42.4151	0.1944
0.755	26.329	3.2799	0.1377	0.1246	43.8118	0.1945
0.785	26.3178	3.2009	0.1397	0.1216	44.4692	0.1946
0.82	26.3159	3.1734	0.1447	0.1206	46.0555	0.1946
0.855	26.3078	3.1866	0.1515	0.1211	48.2288	0.1946
0.895	26.2451	3.2245	0.1605	0.1229	51.1435	0.1948
0.93	26.1644	3.2087	0.1659	0.1226	52.9651	0.1951
0.97	26.1049	3.168	0.1709	0.1214	54.6072	0.1954
1.015	26.0575	3.1254	0.1764	0.1199	56.4255	0.1955
1.055	26.0309	3.0893	0.1812	0.1187	58.0037	0.1957
1.1	26.0168	3.0654	0.1875	0.1178	60.026	0.1957
1.15	26.0153	3.0739	0.1966	0.1182	62.9298	0.1957
1.195	25.9948	3.1075	0.2065	0.1195	66.1318	0.1958
1.25	25.9394	3.1372	0.2181	0.1209	69.908	0.196
1.3	25.8934	3.1418	0.2271	0.1213	72.8745	0.1962
1.36	25.8576	3.1432	0.2377	0.1216	76.3236	0.1963
1.415	25.8452	3.1638	0.2489	0.1224	79.9495	0.1963
1.475	25.8164	3.2243	0.2645	0.1249	84.9728	0.1964
1.54	25.7292	3.2737	0.2803	0.1272	90.2221	0.1967
1.605	25.6469	3.2705	0.2919	0.1275	94.0872	0.1971
1.675	25.5977	3.248	0.3025	0.1269	97.6108	0.1973
1.745	25.5827	3.2347	0.3139	0.1264	101.3078	0.1973
1.82	25.5853	3.242	0.3281	0.1267	105.892	0.1973
1.9	25.6011	3.2973	0.3484	0.1288	112.3904	0.1972
1.98	25.5813	3.3773	0.3718	0.132	119.9972	0.1973
2.065	25.542	3.444	0.3955	0.1348	127.7069	0.1974
2.155	25.5035	3.5134	0.421	0.1378	136.0493	0.1976
2.25	25.4593	3.5767	0.4475	0.1405	144.7158	0.1977
2.345	25.4305	3.6368	0.4742	0.143	153.4341	0.1978
2.445	25.4169	3.7134	0.5049	0.1461	163.3753	0.1978
2.55	25.3915	3.8239	0.5422	0.1506	175.518	0.1979
2.66	25.3416	3.9365	0.5823	0.1553	188.6356	0.1981
2.775	25.2787	4.0415	0.6236	0.1599	202.2535	0.1983
2.89	25.2235	4.1376	0.6649	0.164	215.8425	0.1985
3.015	25.1713	4.2413	0.7111	0.1685	231.0222	0.1986
3.145	25.1265	4.3581	0.7622	0.1734	247.7877	0.1988
3.28	25.0763	4.4845	0.8179	0.1788	266.1255	0.1989
3.42	25.0171	4.6178	0.8782	0.1846	285.9938	0.1991
3.57	24.9468	4.7599	0.9449	0.1908	308.0716	0.1993
3.72	24.8722	4.9008	1.0137	0.197	330.9138	0.1996
3.88	24.7867	5.0478	1.0891	0.2036	355.9989	0.1998
4.045	24.6973	5.1977	1.1691	0.2105	382.7181	0.2001

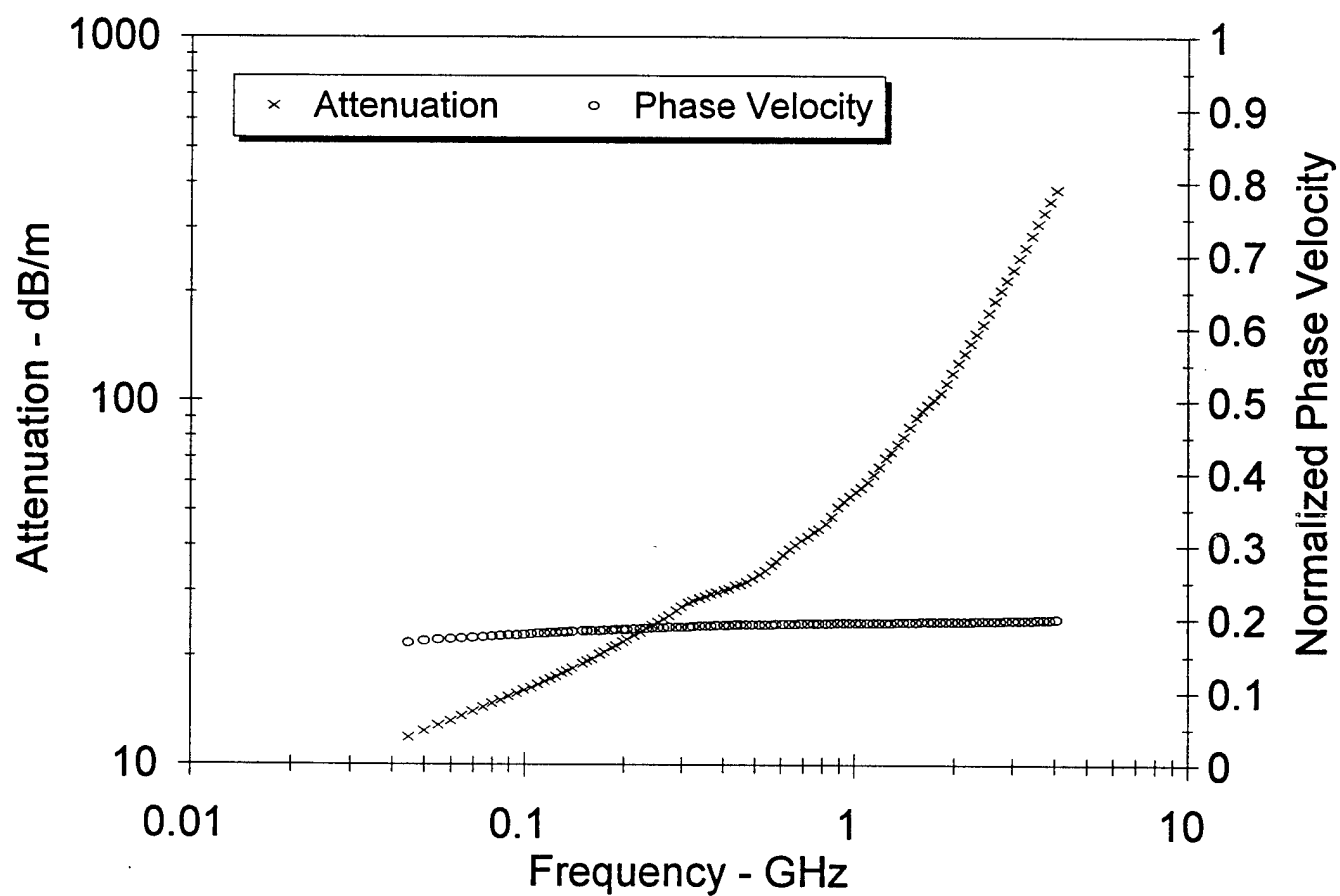
TC65E10.5N , File: 4SP61540  
20 deg C, Mv = 46.3%, 1.300 g/cc (dry)



TC65E10.5N , File: 4SP61540  
20 deg C, Mv = 46.3%, 1.300 g/cc (dry)



TC65E10.5N , File: 4SP61540  
20 deg C, Mv = 46.3%, 1.300 g/cc (dry)





4SP61547  
SB65E10.5N

4.9

1

SB65E10.5N , File: 4SP61547

44.9

20 deg C, Mv = 44.9%, 1.350 g/cc (dry)

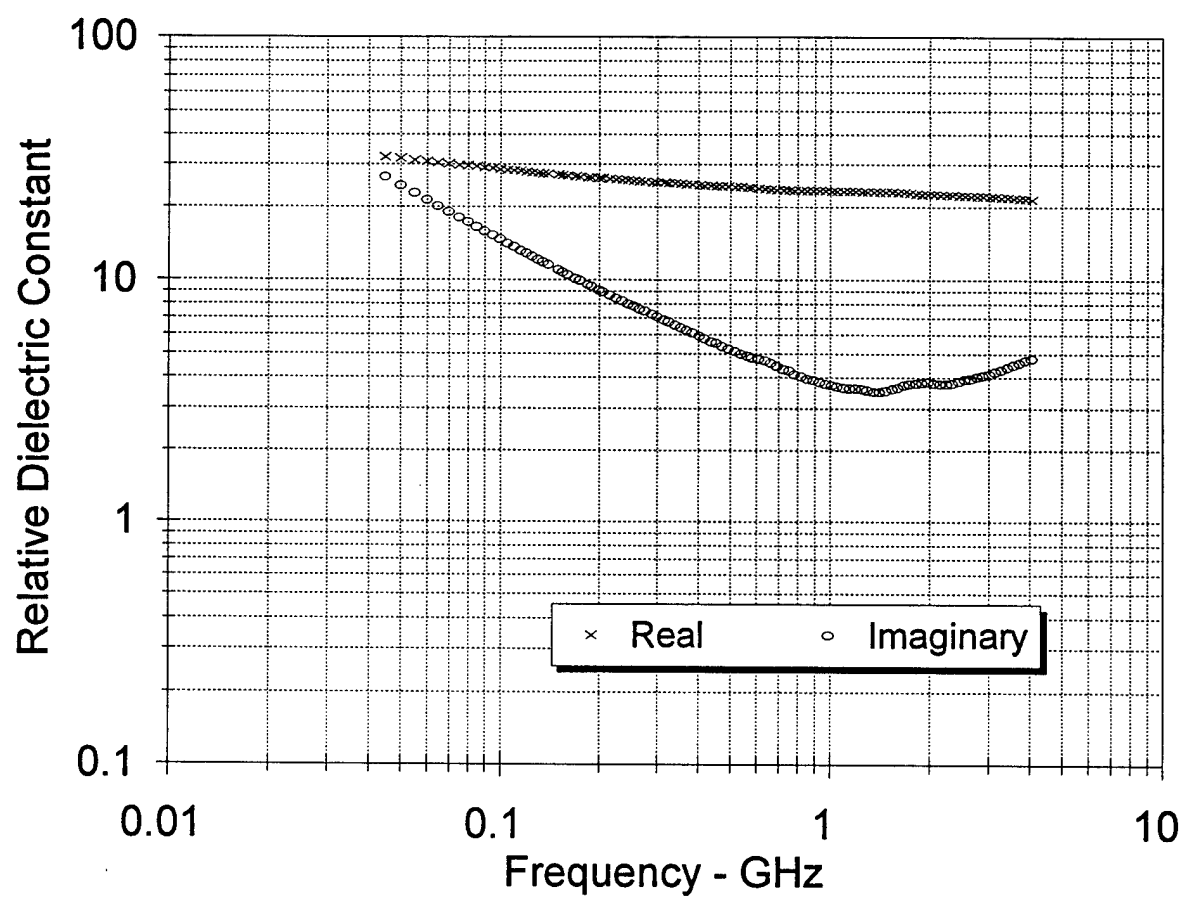
20

1.35

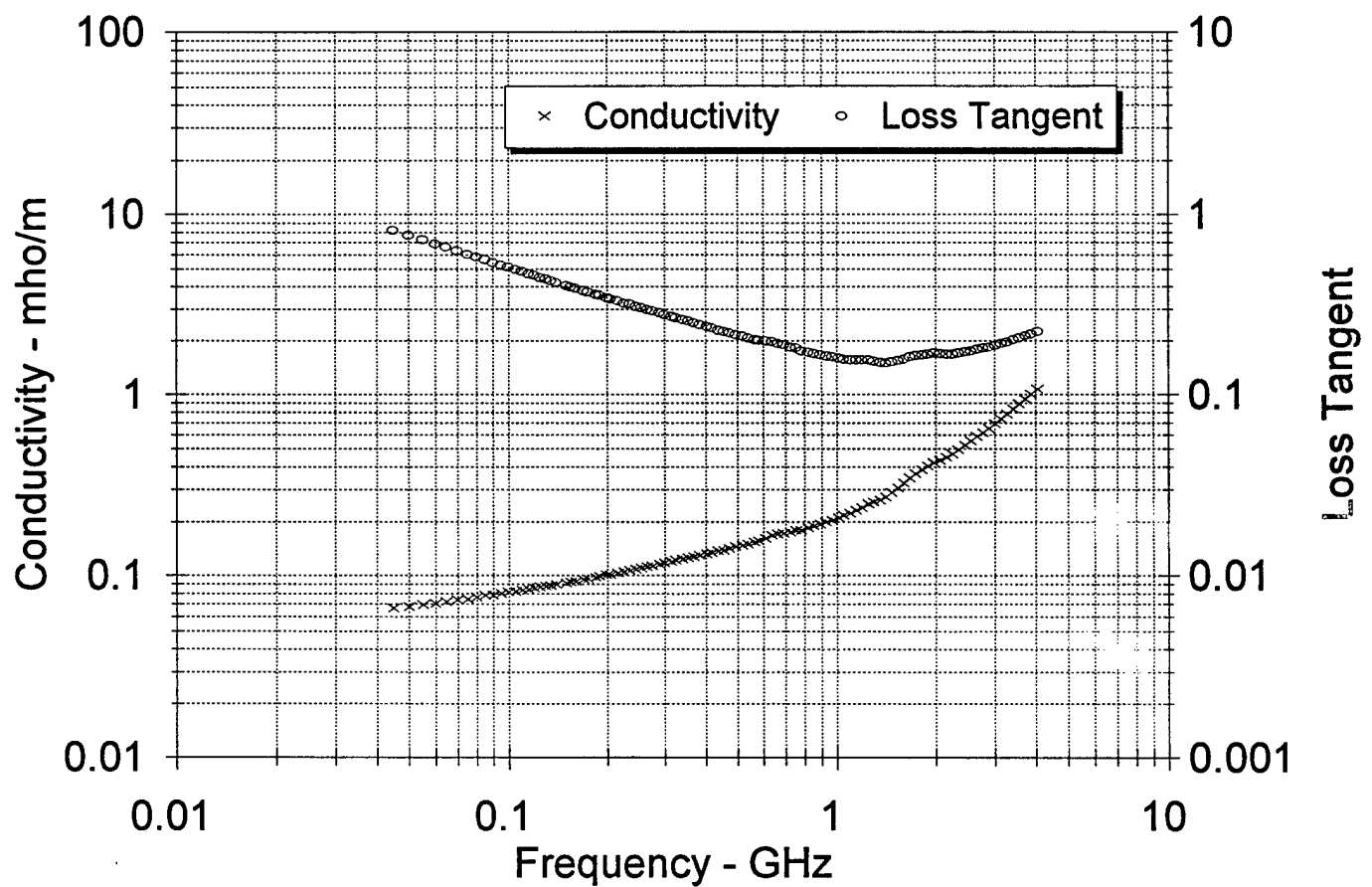
0.045	32.1129	26.4823	0.0663	0.8247	17.8518	0.1647
0.05	31.6694	24.4196	0.0679	0.7711	18.5536	0.1671
0.055	31.1617	22.6747	0.0693	0.7276	19.2152	0.1694
0.06	30.9132	21.2393	0.0709	0.6871	19.818	0.171
0.065	30.4325	20.0203	0.0724	0.6579	20.4719	0.173
0.07	30.0864	18.9575	0.0738	0.6301	21.0682	0.1745
0.075	29.786	17.9915	0.075	0.604	21.5985	0.176
0.08	29.5105	17.1993	0.0765	0.5828	22.182	0.1772
0.085	29.2941	16.4474	0.0777	0.5615	22.6769	0.1783
0.09	28.9779	15.7356	0.0787	0.543	23.1448	0.1797
0.095	28.7891	15.1164	0.0799	0.5251	23.5929	0.1806
0.1	28.5506	14.5622	0.081	0.51	24.0628	0.1817
0.105	28.335	14.0573	0.0821	0.4961	24.5187	0.1826
0.11	28.199	13.6156	0.0833	0.4828	24.9737	0.1833
0.115	28.0143	13.1848	0.0843	0.4706	25.3974	0.1842
0.12	27.8295	12.7901	0.0853	0.4596	25.8222	0.185
0.125	27.7067	12.4341	0.0864	0.4488	26.2352	0.1856
0.13	27.5577	12.0923	0.0874	0.4388	26.6321	0.1863
0.135	27.4299	11.7738	0.0884	0.4292	27.0151	0.1869
0.14	27.2987	11.4816	0.0894	0.4206	27.4081	0.1875
0.15	27.0722	10.9635	0.0914	0.405	28.1981	0.1885
0.155	26.9629	10.723	0.0924	0.3977	28.5752	0.189
0.16	26.8604	10.4913	0.0933	0.3906	28.9328	0.1895
0.17	26.6695	10.0751	0.0952	0.3778	29.6601	0.1904
0.175	26.5787	9.8772	0.0961	0.3716	29.9992	0.1908
0.185	26.4047	9.5224	0.098	0.3606	30.703	0.1916
0.19	26.3431	9.3704	0.099	0.3557	31.0784	0.1919
0.2	26.1876	9.0511	0.1007	0.3456	31.7187	0.1926
0.205	26.12	8.9099	0.1016	0.3411	32.0572	0.193
0.215	25.9821	8.643	0.1033	0.3327	32.7217	0.1936
0.225	25.8676	8.3945	0.105	0.3245	33.3533	0.1941
0.235	25.7588	8.188	0.107	0.3179	34.0671	0.1946
0.245	25.6476	7.9649	0.1085	0.3106	34.6425	0.1952
0.255	25.5428	7.7692	0.1102	0.3042	35.259	0.1957
0.265	25.4471	7.5905	0.1119	0.2983	35.881	0.1961
0.275	25.3643	7.4214	0.1135	0.2926	36.4793	0.1965
0.29	25.2464	7.1921	0.116	0.2849	37.3869	0.1971
0.3	25.1621	7.0425	0.1175	0.2799	37.9474	0.1975
0.315	25.0481	6.8368	0.1198	0.2729	38.7869	0.198
0.325	24.9776	6.7103	0.1213	0.2687	39.3439	0.1983
0.34	24.8793	6.5296	0.1235	0.2625	40.1463	0.1988
0.355	24.7815	6.3569	0.1255	0.2565	40.9039	0.1993
0.37	24.6992	6.2117	0.1278	0.2515	41.7405	0.1997
0.385	24.6186	6.0548	0.1296	0.2459	42.4188	0.2001
0.405	24.521	5.8691	0.1322	0.2394	43.3566	0.2005
0.42	24.4491	5.7452	0.1342	0.235	44.0891	0.2009
0.44	24.3562	5.5896	0.1368	0.2295	45.0365	0.2013
0.455	24.2903	5.4854	0.1388	0.2258	45.7747	0.2016
0.475	24.2073	5.3491	0.1413	0.221	46.692	0.202

0.495	24.1257	5.2266	0.1439	0.2166	47.6349	0.2024
0.52	24.0426	5.0837	0.147	0.2114	48.7691	0.2028
0.54	23.9856	4.9778	0.1495	0.2075	49.6591	0.2031
0.565	23.9255	4.867	0.1529	0.2034	50.8754	0.2034
0.585	23.8844	4.8001	0.1561	0.201	52.003	0.2036
0.61	23.8181	4.7474	0.161	0.1993	53.7088	0.2039
0.64	23.6816	4.6764	0.1664	0.1975	55.6721	0.2045
0.665	23.5686	4.5801	0.1694	0.1943	56.7999	0.205
0.695	23.4703	4.4446	0.1718	0.1894	57.7401	0.2055
0.725	23.4058	4.3176	0.1741	0.1845	58.6047	0.2058
0.755	23.3738	4.2539	0.1786	0.182	60.1772	0.206
0.785	23.3186	4.1129	0.1795	0.1764	60.5821	0.2063
0.82	23.2804	4.0203	0.1833	0.1727	61.9184	0.2065
0.855	23.2434	3.9488	0.1877	0.1699	63.4708	0.2067
0.895	23.2105	3.8799	0.1931	0.1672	65.3348	0.2069
0.93	23.1847	3.8286	0.198	0.1651	67.0344	0.207
0.97	23.1473	3.7688	0.2033	0.1628	68.8887	0.2072
1.015	23.1149	3.7131	0.2096	0.1606	71.0749	0.2073
1.055	23.0869	3.6718	0.2154	0.159	73.1031	0.2075
1.1	23.0558	3.629	0.222	0.1574	75.3881	0.2076
1.15	23.0276	3.5988	0.2301	0.1563	78.2091	0.2078
1.195	22.9993	3.5863	0.2383	0.1559	81.0381	0.2079
1.25	22.9441	3.5781	0.2487	0.1559	84.6755	0.2081
1.3	22.8954	3.5283	0.2551	0.1541	86.937	0.2084
1.36	22.8988	3.4724	0.2626	0.1516	89.5086	0.2084
1.415	22.9194	3.4734	0.2733	0.1515	93.1132	0.2083
1.475	22.926	3.5092	0.2878	0.1531	98.0427	0.2082
1.54	22.9072	3.5637	0.3052	0.1556	103.9867	0.2083
1.605	22.8685	3.6317	0.3241	0.1588	110.5223	0.2085
1.675	22.8012	3.7079	0.3454	0.1626	117.9192	0.2087
1.745	22.7061	3.7646	0.3653	0.1658	124.9701	0.2091
1.82	22.5944	3.7921	0.3838	0.1678	131.607	0.2096
1.9	22.4963	3.8059	0.4021	0.1692	138.1862	0.2101
1.98	22.3966	3.8187	0.4204	0.1705	144.8017	0.2105
2.065	22.2993	3.7919	0.4354	0.17	150.2878	0.211
2.155	22.2481	3.7612	0.4507	0.1691	155.7524	0.2113
2.25	22.226	3.7554	0.4699	0.169	162.4483	0.2114
2.345	22.2079	3.79	0.4942	0.1707	170.9248	0.2114
2.445	22.1745	3.8412	0.5222	0.1732	180.7409	0.2116
2.55	22.1227	3.9025	0.5534	0.1764	191.7059	0.2118
2.66	22.0597	3.9531	0.5847	0.1792	202.8335	0.2121
2.775	22.0057	3.9968	0.6167	0.1816	214.1824	0.2123
2.89	21.9645	4.0502	0.6509	0.1844	226.2237	0.2125
3.015	21.9199	4.1212	0.6909	0.188	240.3454	0.2127
3.145	21.8651	4.2055	0.7355	0.1923	256.108	0.2129
3.28	21.8038	4.2921	0.7828	0.1969	272.9291	0.2131
3.42	21.7372	4.3821	0.8334	0.2016	290.9221	0.2134
3.57	21.6647	4.4864	0.8906	0.2071	311.347	0.2137
3.72	21.58	4.5917	0.9498	0.2128	332.5944	0.2141
3.88	21.479	4.6913	1.0122	0.2184	355.1548	0.2145
4.045	21.3799	4.7766	1.0744	0.2234	377.758	0.2149

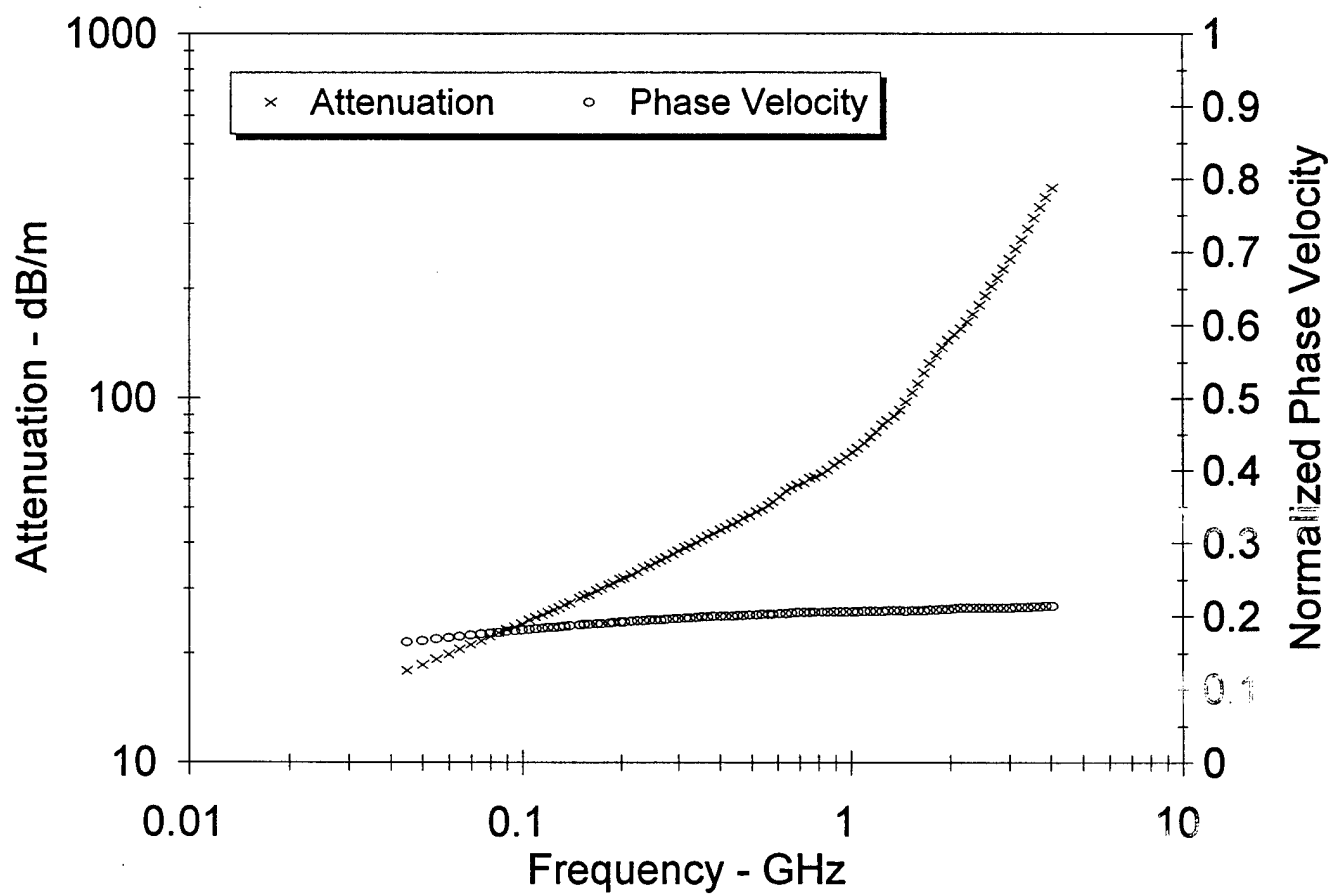
SB65E10.5N , File: 4SP61547  
20 deg C, Mv = 44.9%, 1.350 g/cc (dry)



SB65E10.5N , File: 4SP61547  
20 deg C, Mv = 44.9%, 1.350 g/cc (dry)



SB65E10.5N , File: 4SP61547  
20 deg C, Mv = 44.9%, 1.350 g/cc (dry)



4SP61559  
TC52.5E85.5N

4.9

3

TC52.5E85.5N , File: 4SP61559

35.6

20 deg C, Mv = 35.6%, 1.330 g/cc (dry)

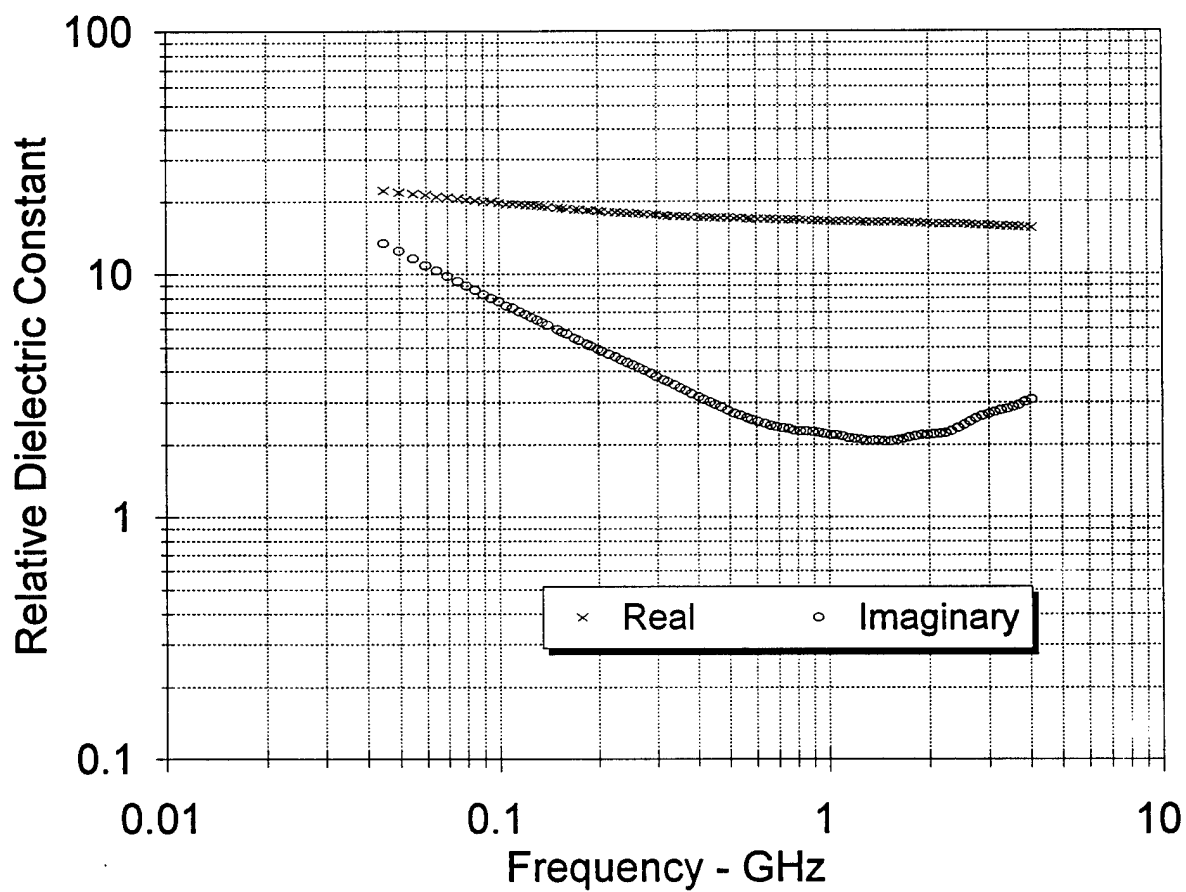
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1.33

0.045	22.0877	13.3651	0.0334	0.6051	11.1778	0.2043
0.05	21.7573	12.4141	0.0345	0.5706	11.6705	0.2067
0.055	21.3845	11.5932	0.0355	0.5421	12.1317	0.2092
0.06	21.2033	10.8507	0.0362	0.5117	12.4812	0.2108
0.065	20.8958	10.3379	0.0374	0.4947	13.0001	0.2127
0.07	20.6685	9.8028	0.0382	0.4743	13.3765	0.2143
0.075	20.4546	9.3544	0.039	0.4573	13.7711	0.2158
0.08	20.2628	8.9484	0.0398	0.4416	14.1397	0.2172
0.085	20.1221	8.592	0.0406	0.427	14.4956	0.2182
0.09	19.9359	8.2651	0.0414	0.4146	14.8503	0.2195
0.095	19.8018	7.966	0.0421	0.4023	15.1761	0.2205
0.1	19.6555	7.696	0.0428	0.3915	15.5055	0.2215
0.105	19.4672	7.3871	0.0431	0.3795	15.7192	0.2228
0.11	19.4194	7.2286	0.0442	0.3722	16.1441	0.2232
0.115	19.3085	7.0164	0.0449	0.3634	16.4416	0.224
0.12	19.1985	6.8263	0.0455	0.3556	16.75	0.2248
0.125	19.1095	6.6437	0.0462	0.3477	17.0317	0.2255
0.13	19.0113	6.4657	0.0467	0.3401	17.2932	0.2262
0.135	18.9244	6.3131	0.0474	0.3336	17.5836	0.2268
0.14	18.8514	6.1598	0.048	0.3268	17.8355	0.2274
0.15	18.6976	5.904	0.0492	0.3158	18.4063	0.2285
0.155	18.6258	5.7737	0.0498	0.31	18.6438	0.229
0.16	18.5638	5.6616	0.0504	0.305	18.9099	0.2295
0.17	18.4389	5.4428	0.0515	0.2952	19.394	0.2304
0.175	18.3747	5.3411	0.052	0.2907	19.6315	0.2309
0.185	18.267	5.1545	0.053	0.2822	20.0986	0.2317
0.19	18.2185	5.0709	0.0536	0.2783	20.3393	0.2321
0.2	18.1249	4.9066	0.0546	0.2707	20.7799	0.2328
0.205	18.0839	4.8292	0.055	0.267	20.9919	0.2331
0.215	18.0002	4.6886	0.0561	0.2605	21.4337	0.2338
0.225	17.923	4.5618	0.0571	0.2545	21.8785	0.2343
0.235	17.8561	4.447	0.0581	0.249	22.3251	0.2349
0.245	17.7816	4.3271	0.0589	0.2433	22.7024	0.2354
0.255	17.7161	4.2206	0.0598	0.2382	23.0972	0.2359
0.265	17.6558	4.1225	0.0607	0.2335	23.4912	0.2364
0.275	17.6056	4.0243	0.0615	0.2286	23.8373	0.2368
0.29	17.5289	3.8941	0.0628	0.2222	24.3857	0.2374
0.3	17.4835	3.8117	0.0636	0.218	24.7307	0.2378
0.315	17.4093	3.6934	0.0647	0.2121	25.2221	0.2383
0.325	17.3678	3.6177	0.0654	0.2083	25.5249	0.2387
0.34	17.3117	3.5122	0.0664	0.2029	25.9736	0.2391
0.355	17.2376	3.4019	0.0672	0.1974	26.3312	0.2397
0.37	17.2141	3.3303	0.0685	0.1935	26.8896	0.2399
0.385	17.1702	3.2418	0.0694	0.1888	27.2763	0.2403
0.405	17.1168	3.1314	0.0705	0.1829	27.7671	0.2407
0.42	17.0832	3.0594	0.0715	0.1791	28.1655	0.241
0.44	17.0399	2.972	0.0727	0.1744	28.7065	0.2413
0.455	17.0107	2.9112	0.0737	0.1711	29.1067	0.2416
0.475	16.9741	2.8356	0.0749	0.1671	29.6336	0.2419

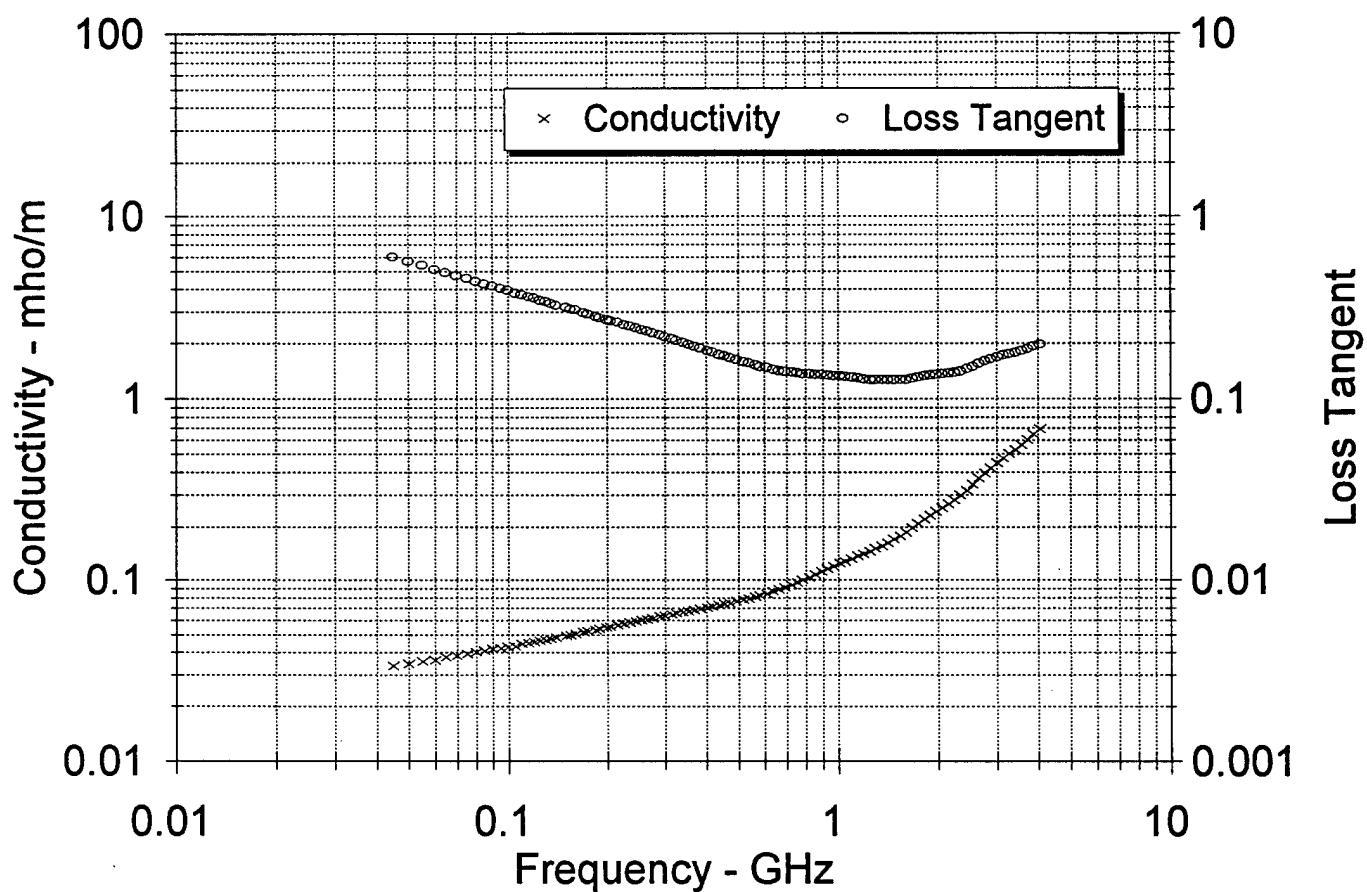
0.495	16.9404	2.7692	0.0762	0.1635	30.193	0.2422
0.52	16.9065	2.6916	0.0778	0.1592	30.8653	0.2424
0.54	16.8815	2.635	0.0791	0.1561	31.4056	0.2427
0.565	16.8523	2.573	0.0808	0.1527	32.1178	0.2429
0.585	16.8332	2.5277	0.0822	0.1502	32.6914	0.2431
0.61	16.8121	2.4801	0.0841	0.1475	33.4704	0.2432
0.64	16.784	2.4356	0.0867	0.1451	34.5184	0.2435
0.665	16.7629	2.4011	0.0888	0.1432	35.3833	0.2436
0.695	16.7369	2.3678	0.0915	0.1415	36.4963	0.2438
0.725	16.7166	2.3356	0.0942	0.1397	37.58	0.244
0.755	16.6928	2.3163	0.0972	0.1388	38.8405	0.2442
0.785	16.6789	2.2869	0.0998	0.1371	39.8895	0.2443
0.82	16.6492	2.2737	0.1037	0.1366	41.4652	0.2445
0.855	16.615	2.2631	0.1076	0.1362	43.0794	0.2448
0.895	16.5773	2.2496	0.112	0.1357	44.876	0.245
0.93	16.5473	2.2375	0.1157	0.1352	46.4226	0.2453
0.97	16.5068	2.2195	0.1197	0.1345	48.0905	0.2456
1.015	16.4672	2.1969	0.124	0.1334	49.872	0.2459
1.055	16.4326	2.1772	0.1277	0.1325	51.4269	0.2462
1.1	16.3981	2.1556	0.1319	0.1315	53.147	0.2464
1.15	16.3623	2.1308	0.1363	0.1302	54.9857	0.2467
1.195	16.3374	2.1095	0.1402	0.1291	56.6118	0.2469
1.25	16.3153	2.0908	0.1453	0.1281	58.732	0.2471
1.3	16.3	2.0757	0.15	0.1273	60.6709	0.2472
1.36	16.2855	2.0667	0.1563	0.1269	63.2256	0.2473
1.415	16.2701	2.0662	0.1626	0.127	65.7973	0.2474
1.475	16.2492	2.0649	0.1694	0.1271	68.5884	0.2476
1.54	16.2425	2.0576	0.1762	0.1267	71.373	0.2476
1.605	16.2401	2.0778	0.1854	0.1279	75.1173	0.2476
1.675	16.2231	2.1082	0.1964	0.1299	79.5769	0.2478
1.745	16.1938	2.1352	0.2072	0.1319	84.0354	0.248
1.82	16.1564	2.1579	0.2184	0.1336	88.6763	0.2482
1.9	16.1191	2.1768	0.23	0.135	93.488	0.2485
1.98	16.0859	2.1894	0.2411	0.1361	98.0863	0.2488
2.065	16.0571	2.2003	0.2527	0.137	102.8972	0.249
2.155	16.035	2.2165	0.2656	0.1382	108.2426	0.2491
2.25	16.0229	2.2326	0.2793	0.1393	113.8735	0.2492
2.345	16.026	2.2676	0.2957	0.1415	120.5204	0.2492
2.445	16.0212	2.329	0.3166	0.1454	129.0615	0.2492
2.55	15.996	2.4051	0.341	0.1504	139.088	0.2493
2.66	15.9529	2.483	0.3673	0.1556	149.96	0.2496
2.775	15.8941	2.5537	0.3941	0.1607	161.1638	0.25
2.89	15.8297	2.6146	0.4202	0.1652	172.167	0.2505
3.015	15.7622	2.6643	0.4467	0.169	183.3872	0.251
3.145	15.7049	2.7087	0.4737	0.1725	194.8083	0.2514
3.28	15.6577	2.7495	0.5015	0.1756	206.5125	0.2518
3.42	15.6186	2.7932	0.5312	0.1788	218.9955	0.252
3.57	15.5886	2.8461	0.565	0.1826	233.1172	0.2522
3.72	15.5635	2.9087	0.6017	0.1869	248.4078	0.2524
3.88	15.5327	2.9833	0.6437	0.1921	265.9341	0.2526
4.045	15.4958	3.0618	0.6887	0.1976	284.7992	0.2528

TC52.5E85.5N , File: 4SP61559  
20 deg C, Mv = 35.6%, 1.330 g/cc (dry)

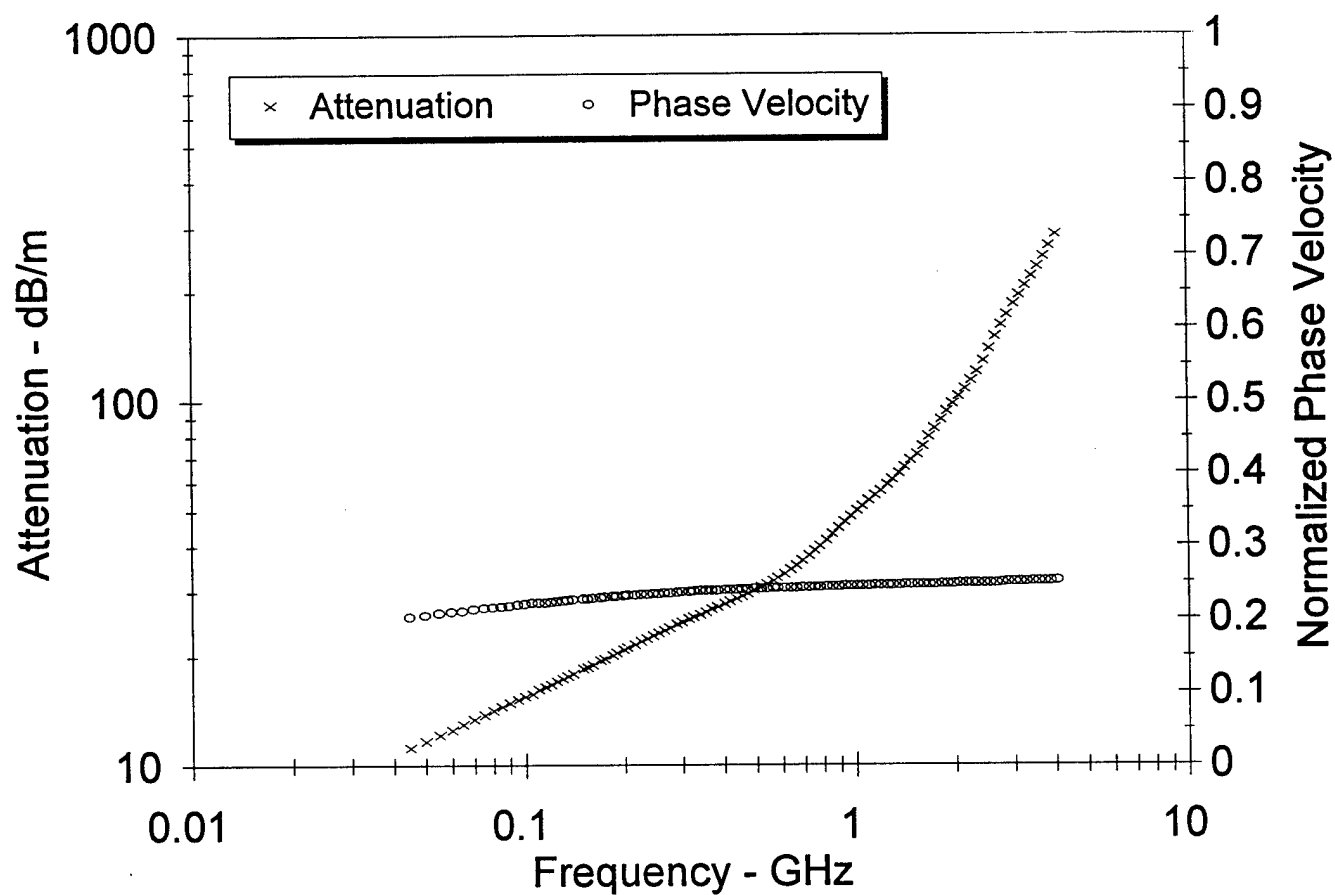




TC52.5E85.5N , File: 4SP61559  
20 deg C, Mv = 35.6%, 1.330 g/cc (dry)



TC52.5E85.5N , File: 4SP61559  
20 deg C, Mv = 35.6%, 1.330 g/cc (dry)



0.495	23.2244	5.5755	0.1535	0.2401	51.7243	0.206
0.52	23.1421	5.4212	0.1568	0.2343	52.9441	0.2065
0.54	23.0858	5.3083	0.1594	0.2299	53.9146	0.2068
0.565	23.03	5.1927	0.1631	0.2255	55.2624	0.2071
0.585	22.9931	5.1208	0.1666	0.2227	56.4797	0.2073
0.61	22.939	5.0707	0.172	0.2211	58.3911	0.2075
0.64	22.8127	5.0276	0.1789	0.2204	60.9129	0.2081
0.665	22.6763	4.9552	0.1832	0.2185	62.5739	0.2088
0.695	22.5317	4.8222	0.1864	0.214	63.8598	0.2095
0.725	22.4351	4.6745	0.1884	0.2084	64.7337	0.21
0.755	22.3812	4.577	0.1922	0.2045	66.0981	0.2103
0.785	22.3065	4.4148	0.1927	0.1979	66.4217	0.2107
0.82	22.2542	4.2948	0.1958	0.193	67.5925	0.211
0.855	22.2092	4.1964	0.1995	0.1889	68.945	0.2113
0.895	22.1686	4.097	0.2039	0.1848	70.5398	0.2115
0.93	22.1414	4.0154	0.2077	0.1814	71.8939	0.2117
0.97	22.1015	3.9229	0.2116	0.1775	73.3366	0.2119
1.015	22.0735	3.8306	0.2162	0.1735	74.9938	0.2121
1.055	22.0509	3.7593	0.2205	0.1705	76.5473	0.2122
1.1	22.0308	3.6884	0.2256	0.1674	78.3534	0.2123
1.15	22.0157	3.6286	0.232	0.1648	80.6209	0.2124
1.195	22.0032	3.5895	0.2385	0.1631	82.9037	0.2125
1.25	21.9818	3.5515	0.2469	0.1616	85.8472	0.2126
1.3	21.9711	3.4968	0.2528	0.1592	87.9362	0.2127
1.36	22.0048	3.4503	0.2609	0.1568	90.7115	0.2125
1.415	22.0367	3.4635	0.2725	0.1572	94.6707	0.2124
1.475	22.0455	3.5114	0.288	0.1593	100.0214	0.2123
1.54	22.0105	3.5733	0.306	0.1623	106.3402	0.2125
1.605	21.9503	3.6161	0.3227	0.1647	112.2999	0.2127
1.675	21.8813	3.6473	0.3397	0.1667	118.3851	0.213
1.745	21.8082	3.6651	0.3556	0.1681	124.1371	0.2134
1.82	21.7322	3.672	0.3716	0.169	129.9347	0.2138
1.9	21.6622	3.6757	0.3883	0.1697	136.0012	0.2141
1.98	21.5949	3.681	0.4053	0.1705	142.1482	0.2144
2.065	21.5307	3.6712	0.4216	0.1705	148.0751	0.2147
2.155	21.4914	3.6728	0.4401	0.1709	154.7354	0.2149
2.25	21.46	3.692	0.4619	0.172	162.5091	0.2151
2.345	21.4206	3.7369	0.4873	0.1745	171.5707	0.2153
2.445	21.3636	3.7856	0.5147	0.1772	181.4397	0.2155
2.55	21.2919	3.8315	0.5433	0.18	191.8282	0.2159
2.66	21.2221	3.867	0.572	0.1822	202.2679	0.2162
2.775	21.1601	3.9005	0.6019	0.1843	213.132	0.2165
2.89	21.1104	3.9486	0.6345	0.187	224.938	0.2167
3.015	21.0552	4.012	0.6726	0.1905	238.7064	0.217
3.145	20.9897	4.0917	0.7156	0.1949	254.2925	0.2173
3.28	20.9157	4.1693	0.7604	0.1993	270.6536	0.2176
3.42	20.8384	4.245	0.8073	0.2037	287.8053	0.2179
3.57	20.7592	4.3269	0.8589	0.2084	306.7326	0.2183
3.72	20.6867	4.4128	0.9128	0.2133	326.4556	0.2186
3.88	20.6076	4.5128	0.9736	0.219	348.7793	0.219
4.045	20.5195	4.6142	1.0379	0.2249	372.4586	0.2194

4SP61609  
SB52.5E85.5N

4.9

4

SB52.5E85.5N , File: 4SP61609

42.4

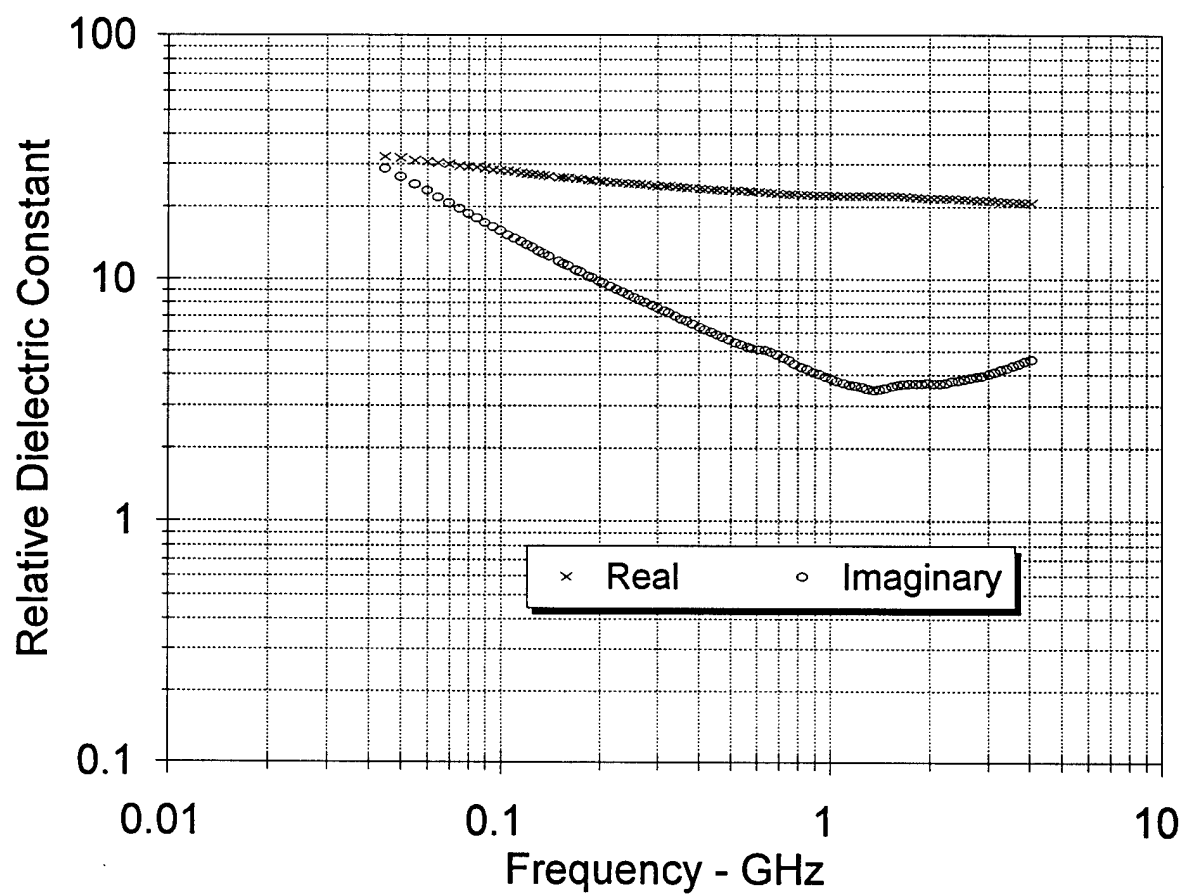
20 deg C, Mv = 42.4%, 1.380 g/cc (dry)

20

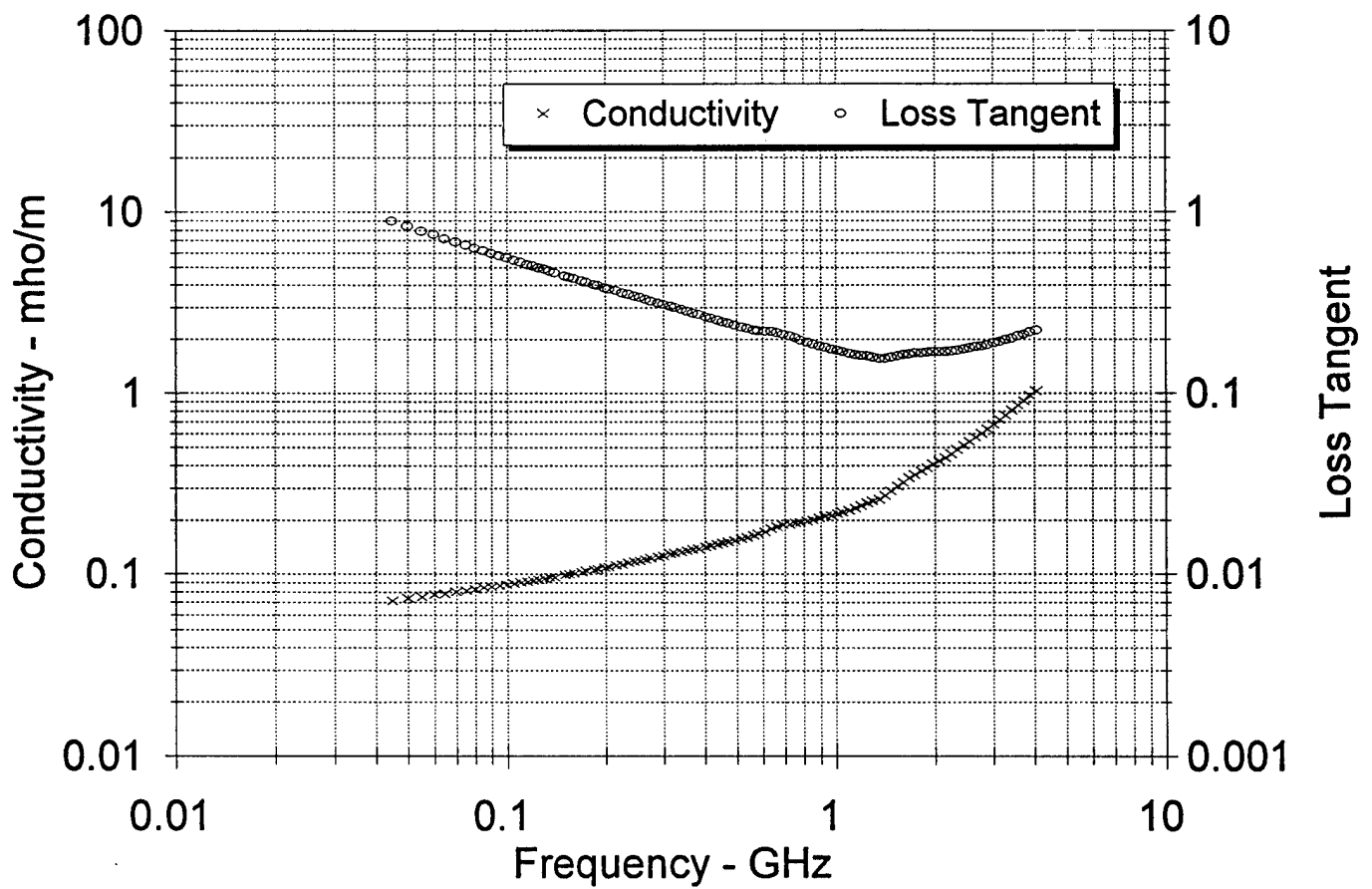
1.38

0.045	32.1237	28.7101	0.0718	0.8937	19.1635	0.1631
0.05	31.5879	26.5072	0.0737	0.8392	19.9781	0.1657
0.055	31.0478	24.6146	0.0753	0.7928	20.7157	0.1682
0.06	30.6125	23.1993	0.0774	0.7578	21.552	0.1702
0.065	30.2384	21.7551	0.0786	0.7195	22.1418	0.1721
0.07	29.8443	20.5585	0.08	0.6889	22.7718	0.174
0.075	29.499	19.5255	0.0814	0.6619	23.3875	0.1756
0.08	29.19	18.6277	0.0829	0.6382	23.9959	0.177
0.085	28.9498	17.8553	0.0844	0.6168	24.6037	0.1782
0.09	28.6183	17.0708	0.0854	0.5965	25.111	0.1797
0.095	28.3871	16.4037	0.0867	0.5779	25.6298	0.1808
0.1	28.1438	15.8153	0.0879	0.5619	26.171	0.1819
0.105	27.8731	15.2194	0.0889	0.546	26.6201	0.1831
0.11	27.7323	14.7676	0.0903	0.5325	27.1693	0.1839
0.115	27.5259	14.2992	0.0914	0.5195	27.6455	0.1848
0.12	27.3395	13.8551	0.0925	0.5068	28.0851	0.1857
0.125	27.1746	13.4697	0.0936	0.4957	28.5611	0.1865
0.13	27.0094	13.1025	0.0947	0.4851	29.0139	0.1873
0.135	26.859	12.7593	0.0958	0.475	29.4531	0.188
0.14	26.7139	12.4434	0.0969	0.4658	29.8964	0.1887
0.15	26.4513	11.8767	0.0991	0.449	30.7758	0.1899
0.155	26.3259	11.6099	0.1001	0.441	31.1854	0.1905
0.16	26.2113	11.3654	0.1011	0.4336	31.6046	0.1911
0.17	25.9899	10.8992	0.103	0.4194	32.3827	0.1921
0.175	25.8848	10.6858	0.104	0.4128	32.7684	0.1926
0.185	25.6936	10.2969	0.1059	0.4008	33.5409	0.1936
0.19	25.6196	10.1264	0.107	0.3953	33.9424	0.194
0.2	25.4445	9.7833	0.1088	0.3845	34.6695	0.1948
0.205	25.3707	9.6277	0.1097	0.3795	35.0368	0.1952
0.215	25.2294	9.342	0.1117	0.3703	35.7833	0.1959
0.225	25.0939	9.0713	0.1135	0.3615	36.4871	0.1965
0.235	24.9732	8.8463	0.1156	0.3542	37.2755	0.1971
0.245	24.8512	8.6048	0.1172	0.3463	37.9177	0.1977
0.255	24.734	8.3936	0.119	0.3394	38.6086	0.1983
0.265	24.6296	8.1919	0.1207	0.3326	39.2621	0.1988
0.275	24.5367	8.0121	0.1225	0.3265	39.9436	0.1993
0.29	24.4041	7.7545	0.125	0.3178	40.9053	0.2
0.3	24.3153	7.5942	0.1267	0.3123	41.5331	0.2004
0.315	24.1874	7.3605	0.1289	0.3043	42.4037	0.2011
0.325	24.1123	7.2183	0.1304	0.2994	42.9865	0.2015
0.34	24.0038	7.0223	0.1328	0.2926	43.8691	0.202
0.355	23.8934	6.8202	0.1346	0.2854	44.6103	0.2026
0.37	23.8108	6.6602	0.137	0.2797	45.5008	0.203
0.385	23.7262	6.4879	0.1389	0.2734	46.2216	0.2034
0.405	23.6179	6.2825	0.1415	0.266	47.2135	0.204
0.42	23.5495	6.1413	0.1434	0.2608	47.9469	0.2044
0.44	23.4547	5.9733	0.1461	0.2547	48.9732	0.2049
0.455	23.3889	5.855	0.1481	0.2503	49.7226	0.2052
0.475	23.305	5.7086	0.1508	0.245	50.7173	0.2056

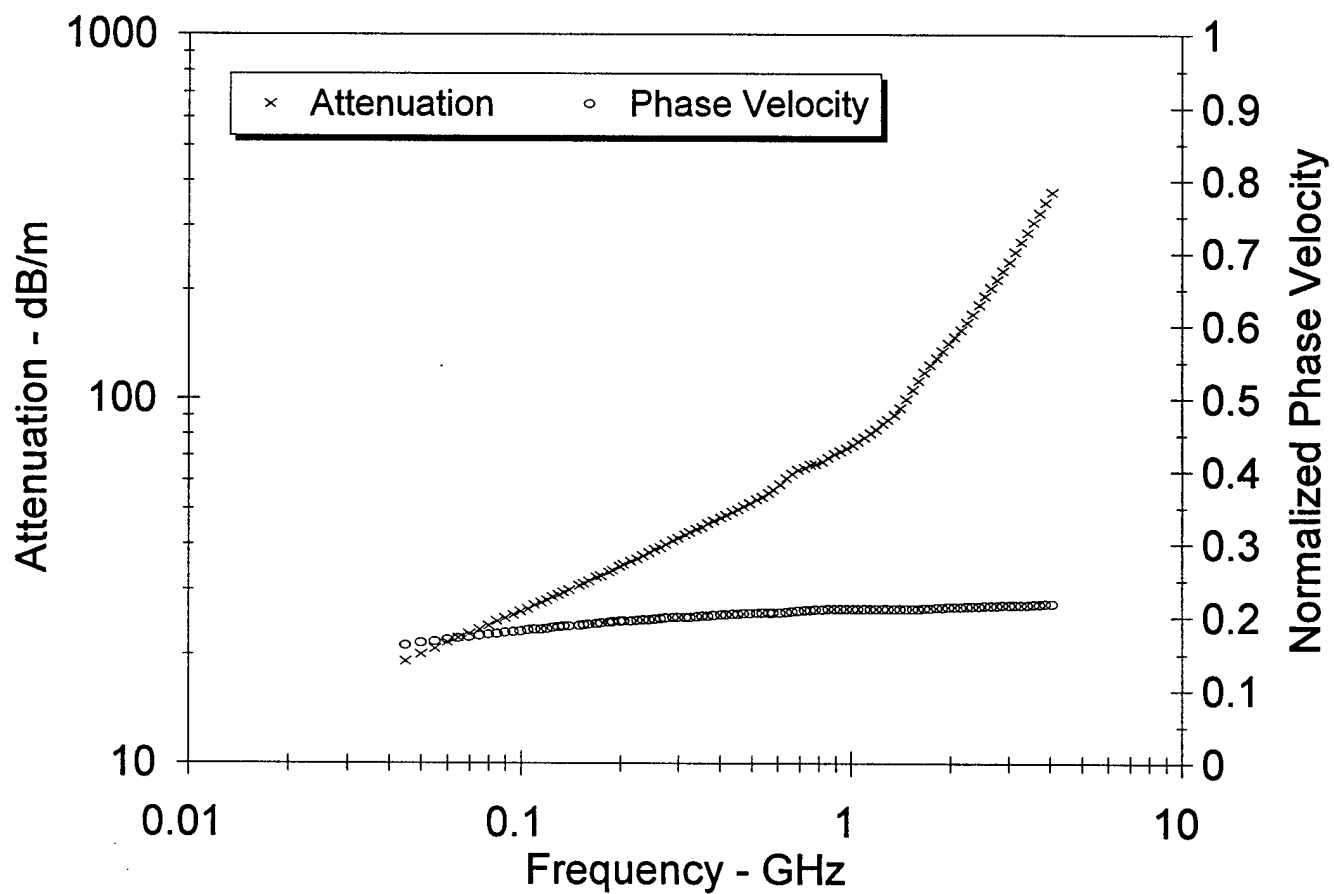
SB52.5E85.5N , File: 4SP61609  
20 deg C, Mv = 42.4%, 1.380 g/cc (dry)



SB52.5E85.5N , File: 4SP61609  
20 deg C, Mv = 42.4%, 1.380 g/cc (dry)



SB52.5E85.5N , File: 4SP61609  
20 deg C, Mv = 42.4%, 1.380 g/cc (dry)



5SP61309  
SB27.5E73N

9.7

2

16.4

20

1.28

SB27.5E73N , File: 5SP61309

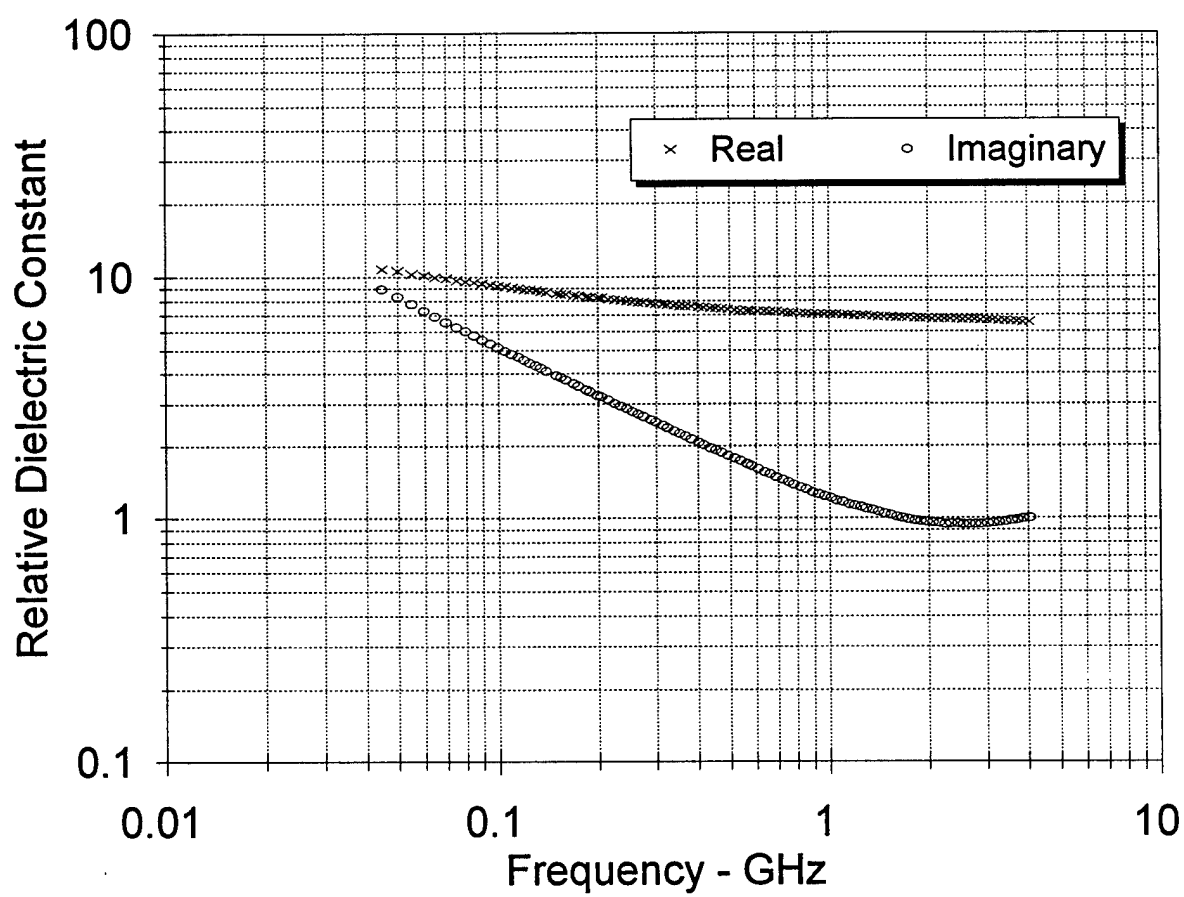
20 deg C, Mv = 16.4%, 1.280 g/cc (dry)

0.045	10.7999	8.9068	0.0223	0.8247	10.3532	0.284
0.05	10.5547	8.2714	0.023	0.7837	10.8674	0.2889
0.055	10.3317	7.7311	0.0236	0.7483	11.347	0.2934
0.06	10.1476	7.2895	0.0243	0.7183	11.8236	0.2972
0.065	9.9907	6.8773	0.0249	0.6884	12.2264	0.3007
0.07	9.8455	6.5353	0.0254	0.6638	12.6434	0.3038
0.075	9.7072	6.2358	0.026	0.6424	13.0522	0.3068
0.08	9.5929	5.9742	0.0266	0.6228	13.4498	0.3094
0.085	9.4729	5.7217	0.027	0.604	13.8041	0.312
0.09	9.3664	5.5062	0.0276	0.5879	14.1722	0.3144
0.095	9.2694	5.3009	0.028	0.5719	14.5041	0.3166
0.1	9.1789	5.1237	0.0285	0.5582	14.8529	0.3187
0.105	9.1034	4.9636	0.029	0.5452	15.1928	0.3205
0.11	9.0262	4.811	0.0294	0.533	15.5139	0.3223
0.115	8.9525	4.6713	0.0299	0.5218	15.8321	0.324
0.12	8.8867	4.543	0.0303	0.5112	16.1446	0.3256
0.125	8.8219	4.4172	0.0307	0.5007	16.4299	0.3271
0.13	8.7612	4.3036	0.0311	0.4912	16.7217	0.3286
0.135	8.7041	4.1972	0.0315	0.4822	17.007	0.33
0.14	8.6507	4.0993	0.0319	0.4739	17.2933	0.3313
0.15	8.5526	3.9191	0.0327	0.4582	17.8436	0.3337
0.155	8.5052	3.8338	0.033	0.4508	18.1002	0.3349
0.16	8.4601	3.7536	0.0334	0.4437	18.355	0.336
0.17	8.3801	3.6068	0.0341	0.4304	18.8524	0.338
0.175	8.3421	3.5382	0.0344	0.4241	19.0921	0.339
0.185	8.271	3.4095	0.0351	0.4122	19.5543	0.3408
0.19	8.2382	3.35	0.0354	0.4066	19.7814	0.3417
0.2	8.1765	3.2398	0.036	0.3962	20.2321	0.3433
0.205	8.146	3.1893	0.0364	0.3915	20.4618	0.3441
0.215	8.0912	3.091	0.037	0.382	20.8861	0.3455
0.225	8.0405	2.9984	0.0375	0.3729	21.2859	0.3469
0.235	7.9927	2.9211	0.0382	0.3655	21.7369	0.3481
0.245	7.9494	2.8398	0.0387	0.3572	22.1062	0.3493
0.255	7.9071	2.7678	0.0392	0.35	22.4984	0.3505
0.265	7.8677	2.6993	0.0398	0.3431	22.8714	0.3515
0.275	7.8303	2.6359	0.0403	0.3366	23.2438	0.3525
0.29	7.7786	2.5486	0.0411	0.3276	23.7947	0.354
0.3	7.7461	2.4929	0.0416	0.3218	24.1384	0.3548
0.315	7.7032	2.4145	0.0423	0.3134	24.6316	0.3561
0.325	7.6749	2.3668	0.0428	0.3084	24.9672	0.3568
0.34	7.6375	2.2987	0.0435	0.301	25.4426	0.3579
0.355	7.6017	2.2374	0.0442	0.2943	25.9303	0.3589
0.37	7.5687	2.179	0.0448	0.2879	26.3889	0.3599
0.385	7.5367	2.1244	0.0455	0.2819	26.8379	0.3608
0.405	7.4991	2.0573	0.0463	0.2743	27.423	0.3618
0.42	7.4717	2.0106	0.047	0.2691	27.8541	0.3626
0.44	7.4383	1.9546	0.0478	0.2628	28.4421	0.3636
0.455	7.4152	1.915	0.0485	0.2583	28.8688	0.3643
0.475	7.3847	1.8659	0.0493	0.2527	29.4358	0.3651

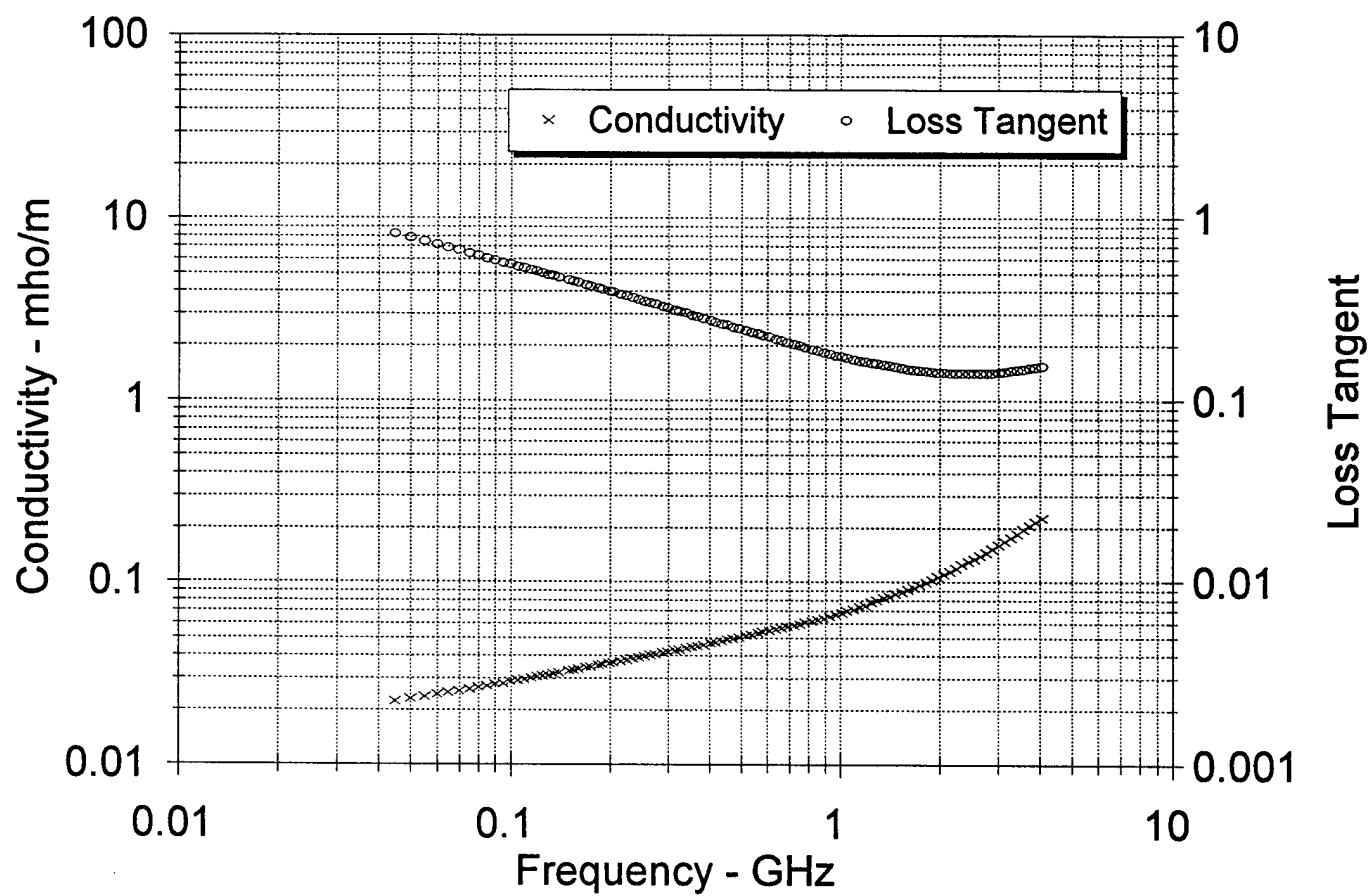


0.495	7.3558	1.8212	0.0501	0.2476	30.0079	0.366
0.52	7.3212	1.7686	0.0511	0.2416	30.6964	0.367
0.54	7.2955	1.7284	0.0519	0.2369	31.2146	0.3677
0.565	7.2657	1.6807	0.0528	0.2313	31.8336	0.3686
0.585	7.2448	1.6447	0.0535	0.227	32.3093	0.3692
0.61	7.2205	1.6026	0.0544	0.2219	32.8914	0.3699
0.64	7.1942	1.5565	0.0554	0.2163	33.5871	0.3707
0.665	7.1734	1.5205	0.0562	0.212	34.1503	0.3713
0.695	7.1501	1.4806	0.0572	0.2071	34.8182	0.372
0.725	7.1298	1.4447	0.0582	0.2026	35.5002	0.3726
0.755	7.1069	1.4107	0.0592	0.1985	36.1637	0.3733
0.785	7.0916	1.3792	0.0602	0.1945	36.8082	0.3738
0.82	7.072	1.3459	0.0614	0.1903	37.5801	0.3744
0.855	7.054	1.3156	0.0625	0.1865	38.3582	0.3749
0.895	7.0363	1.2847	0.0639	0.1826	39.2662	0.3754
0.93	7.0211	1.2602	0.0652	0.1795	40.0704	0.3759
0.97	7.0046	1.2352	0.0666	0.1763	41.0207	0.3764
1.015	6.9862	1.2102	0.0683	0.1732	42.1157	0.3769
1.055	6.9708	1.1883	0.0697	0.1705	43.0363	0.3774
1.1	6.9561	1.1675	0.0714	0.1678	44.1377	0.3778
1.15	6.9395	1.1442	0.0732	0.1649	45.2808	0.3783
1.195	6.9273	1.1288	0.075	0.1629	46.4621	0.3787
1.25	6.91	1.1138	0.0774	0.1612	48.0192	0.3792
1.3	6.8925	1.0995	0.0795	0.1595	49.3642	0.3797
1.36	6.8718	1.0815	0.0818	0.1574	50.8811	0.3803
1.415	6.8543	1.0649	0.0838	0.1554	52.1969	0.3808
1.475	6.8377	1.0477	0.0859	0.1532	53.597	0.3813
1.54	6.8229	1.0299	0.0882	0.151	55.077	0.3818
1.605	6.811	1.0144	0.0905	0.1489	56.59	0.3821
1.675	6.7998	1.0009	0.0932	0.1472	58.3237	0.3825
1.745	6.7891	0.9903	0.0961	0.1459	60.1664	0.3828
1.82	6.778	0.9814	0.0993	0.1448	62.2398	0.3831
1.9	6.7649	0.9745	0.103	0.1441	64.5849	0.3835
1.98	6.7511	0.9676	0.1065	0.1433	66.9002	0.3839
2.065	6.7368	0.9607	0.1103	0.1426	69.3489	0.3843
2.155	6.7237	0.9528	0.1142	0.1417	71.8452	0.3847
2.25	6.7145	0.9474	0.1185	0.1411	74.6401	0.385
2.345	6.7046	0.9487	0.1237	0.1415	77.9549	0.3852
2.445	6.6868	0.9503	0.1292	0.1421	81.5244	0.3857
2.55	6.6712	0.9461	0.1342	0.1418	84.7474	0.3862
2.66	6.6589	0.9431	0.1395	0.1416	88.2056	0.3866
2.775	6.6475	0.9431	0.1455	0.1419	92.0993	0.3869
2.89	6.6363	0.9439	0.1517	0.1422	96.0711	0.3872
3.015	6.6251	0.9479	0.1589	0.1431	100.7376	0.3875
3.145	6.6125	0.9537	0.1668	0.1442	105.8181	0.3879
3.28	6.5995	0.9607	0.1752	0.1456	111.2777	0.3882
3.42	6.5859	0.9694	0.1844	0.1472	117.1973	0.3886
3.57	6.5692	0.9795	0.1944	0.1491	123.754	0.3891
3.72	6.5511	0.9869	0.2041	0.1506	130.0975	0.3896
3.88	6.5347	0.9937	0.2144	0.1521	136.7991	0.3901
4.045	6.5197	1.0025	0.2255	0.1538	144.0311	0.3905

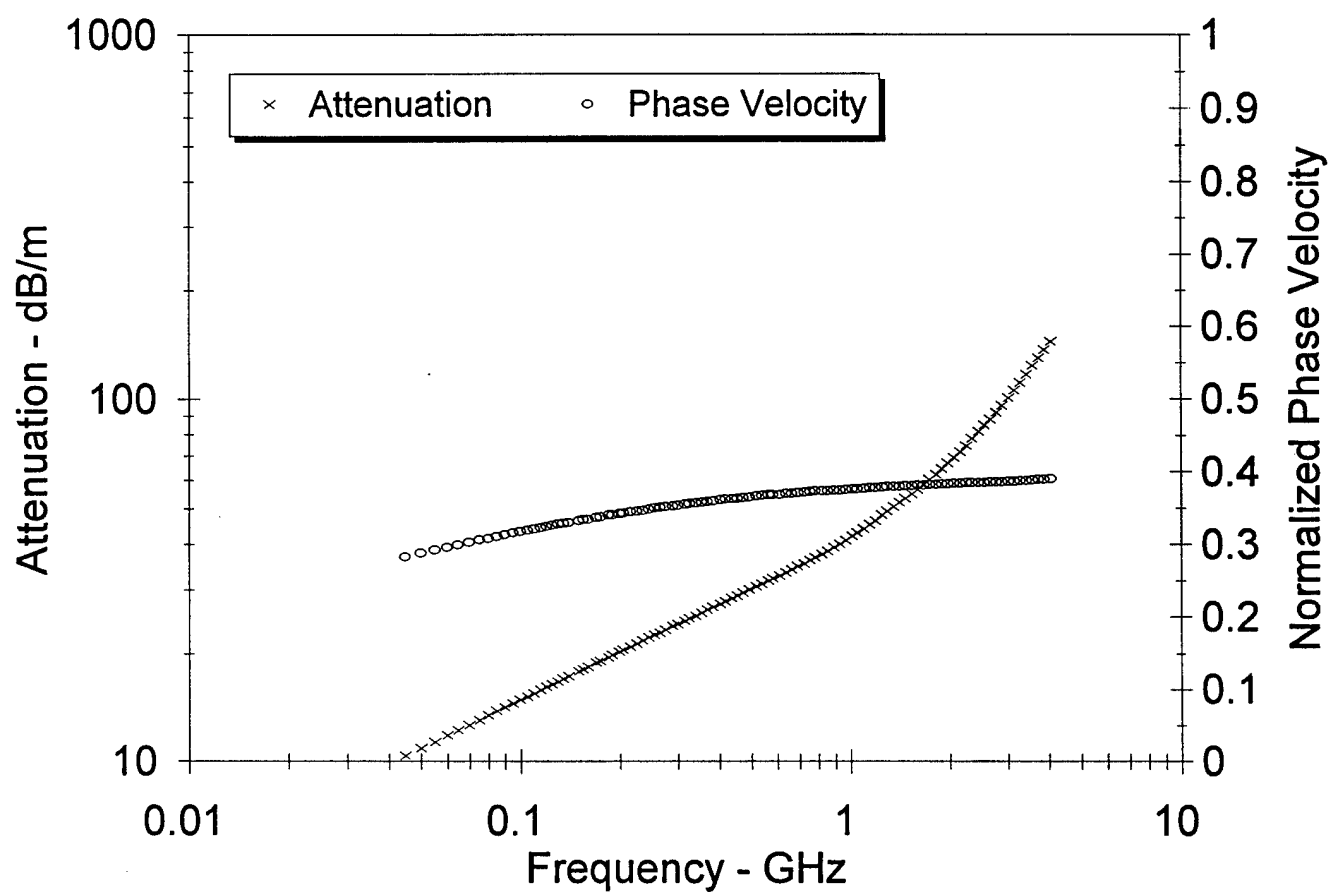
SB27.5E73N , File: 5SP61309  
20 deg C, Mv = 16.4%, 1.280 g/cc (dry)



SB27.5E73N , File: 5SP61309  
20 deg C, Mv = 16.4%, 1.280 g/cc (dry)



SB27.5E73N , File: 5SP61309  
20 deg C, Mv = 16.4%, 1.280 g/cc (dry)



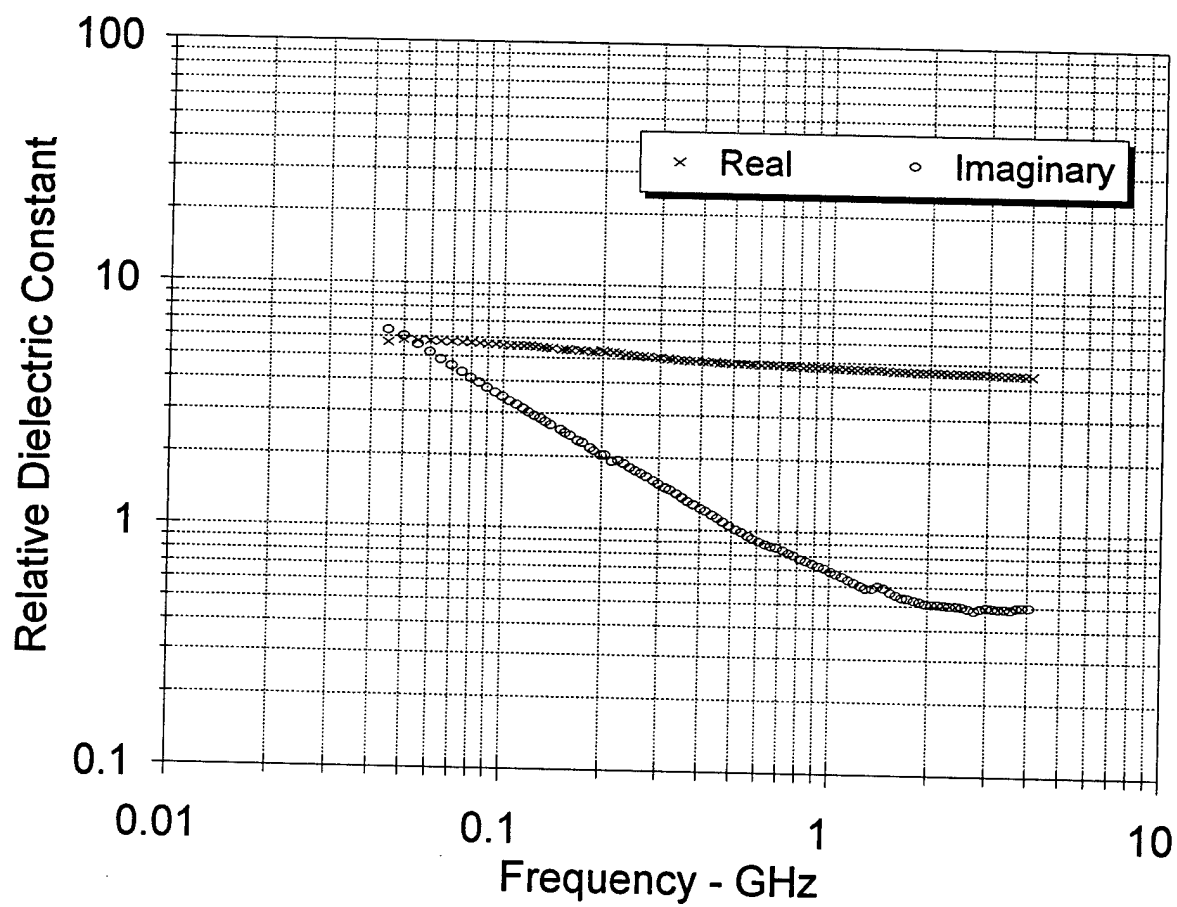
5SP61318  
TC27.5E73N

TC27.5E73N , File: 5SP61318  
20 deg C, Mv = 9.7%, 1.320 g/cc (dry)

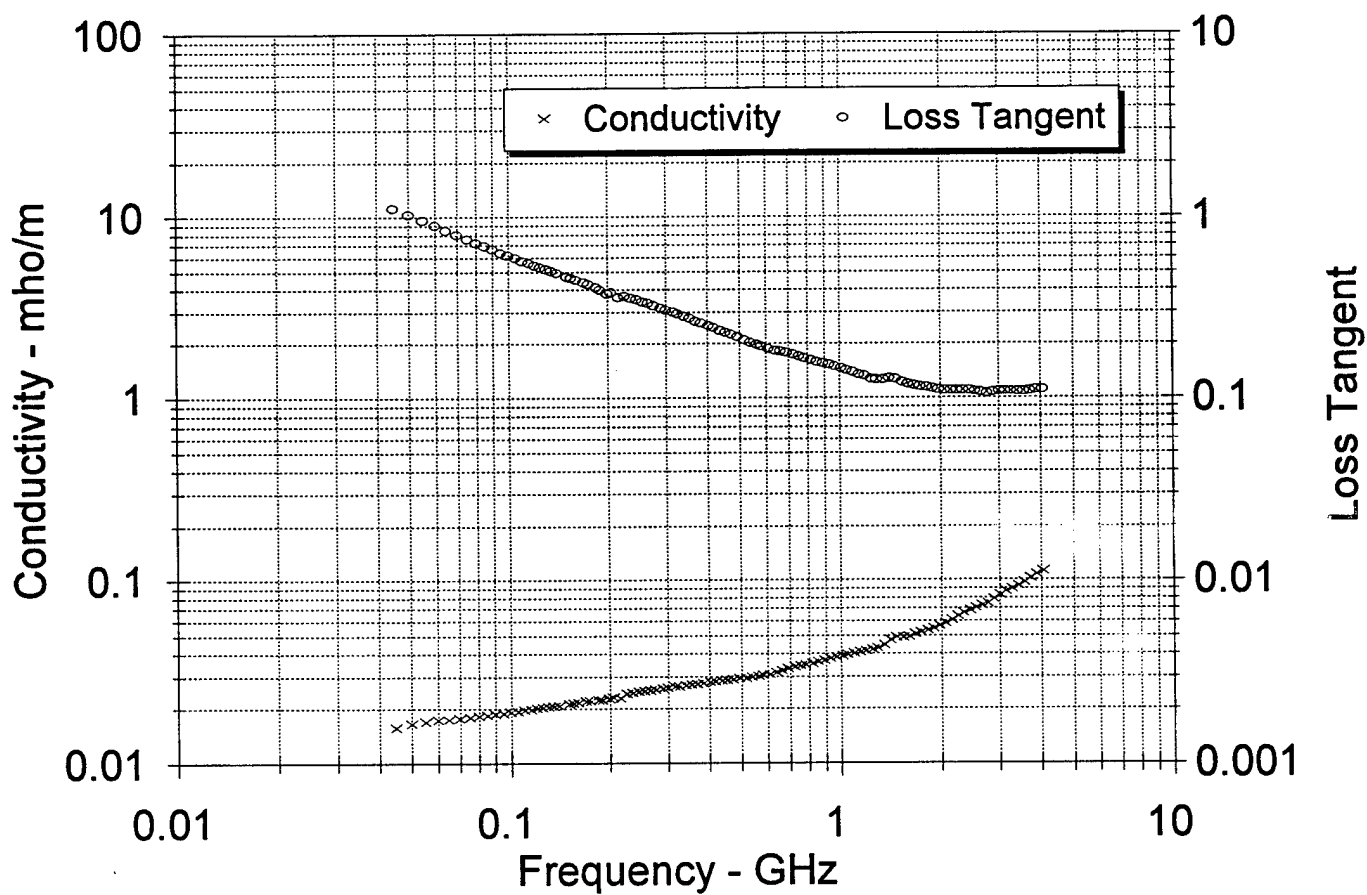
9.7						
3						
9.7						
20						
1.32						
0.045	5.6362	6.3211	0.0158	1.1215	9.7426	0.3766
0.05	5.7558	5.9786	0.0166	1.0387	10.2569	0.3772
0.055	5.7184	5.5428	0.017	0.9693	10.6015	0.3823
0.06	5.7208	5.1739	0.0173	0.9044	10.8949	0.3858
0.065	5.6988	4.8318	0.0175	0.8479	11.1324	0.3897
0.07	5.6936	4.5511	0.0177	0.7993	11.3733	0.3925
0.075	5.6797	4.3047	0.018	0.7579	11.605	0.3952
0.08	5.6628	4.0869	0.0182	0.7217	11.8266	0.3977
0.085	5.6462	3.8993	0.0184	0.6906	12.0551	0.3999
0.09	5.6252	3.7288	0.0187	0.6629	12.2718	0.402
0.095	5.6107	3.5741	0.0189	0.637	12.4723	0.4038
0.1	5.5901	3.4397	0.0191	0.6153	12.6919	0.4057
0.105	5.5673	3.3091	0.0193	0.5944	12.8788	0.4075
0.11	5.5513	3.2	0.0196	0.5764	13.0934	0.409
0.115	5.5305	3.0944	0.0198	0.5595	13.2877	0.4105
0.12	5.5141	3.0006	0.02	0.5442	13.4881	0.4118
0.125	5.4931	2.9084	0.0202	0.5295	13.667	0.4133
0.13	5.4708	2.8244	0.0204	0.5163	13.8509	0.4147
0.135	5.454	2.7476	0.0206	0.5038	14.0331	0.4159
0.14	5.4343	2.6749	0.0208	0.4922	14.2105	0.4172
0.15	5.397	2.5431	0.0212	0.4712	14.5569	0.4195
0.155	5.3789	2.4838	0.0214	0.4618	14.7297	0.4206
0.16	5.3602	2.424	0.0216	0.4522	14.8789	0.4218
0.17	5.3267	2.3133	0.0219	0.4343	15.1604	0.4238
0.175	5.3092	2.2617	0.022	0.426	15.295	0.4249
0.185	5.2761	2.1586	0.0222	0.4091	15.5044	0.4269
0.19	5.262	2.1002	0.0222	0.3991	15.5278	0.4278
0.2	5.3368	2.0308	0.0226	0.3805	15.719	0.4255
0.205	5.2637	2.0254	0.0231	0.3848	16.1744	0.4283
0.215	5.2693	1.9044	0.0228	0.3614	15.9736	0.4289
0.225	5.2486	1.923	0.0241	0.3664	16.906	0.4296
0.235	5.1983	1.8686	0.0244	0.3595	17.2505	0.4319
0.245	5.1669	1.8108	0.0247	0.3505	17.4935	0.4335
0.255	5.1394	1.7568	0.0249	0.3418	17.7239	0.435
0.265	5.1163	1.7076	0.0252	0.3337	17.9546	0.4362
0.275	5.0946	1.6605	0.0254	0.3259	18.1684	0.4374
0.29	5.0662	1.5965	0.0257	0.3151	18.487	0.439
0.3	5.0485	1.5552	0.0259	0.3081	18.6725	0.44
0.315	5.0258	1.5014	0.0263	0.2987	18.9821	0.4413
0.325	5.0111	1.4667	0.0265	0.2927	19.1684	0.4421
0.34	4.9903	1.4164	0.0268	0.2838	19.4183	0.4433
0.355	4.9711	1.3681	0.027	0.2752	19.632	0.4444
0.37	4.9566	1.3226	0.0272	0.2668	19.8204	0.4453
0.385	4.9499	1.2817	0.0274	0.2589	20.0097	0.4458
0.405	4.927	1.2404	0.0279	0.2518	20.4272	0.447
0.42	4.913	1.2049	0.0281	0.2452	20.6143	0.4478
0.44	4.897	1.1609	0.0284	0.2371	20.8508	0.4488
0.455	4.8881	1.1291	0.0286	0.231	20.9987	0.4494
0.475	4.8764	1.0914	0.0288	0.2238	21.2219	0.4501

0.495	4.8659	1.0567	0.0291	0.2172	21.4445	0.4507
0.52	4.8547	1.0171	0.0294	0.2095	21.7164	0.4514
0.54	4.8473	0.9883	0.0297	0.2039	21.9358	0.4519
0.565	4.8398	0.9559	0.03	0.1975	22.2226	0.4524
0.585	4.8348	0.9326	0.0303	0.1929	22.4663	0.4527
0.61	4.832	0.9061	0.0307	0.1875	22.7724	0.453
0.64	4.8326	0.8843	0.0315	0.183	23.3203	0.453
0.665	4.8247	0.8704	0.0322	0.1804	23.8741	0.4534
0.695	4.8138	0.8557	0.0331	0.1778	24.5579	0.454
0.725	4.7982	0.8395	0.0338	0.175	25.1771	0.4548
0.755	4.7815	0.8144	0.0342	0.1703	25.4836	0.4557
0.785	4.7718	0.7944	0.0347	0.1665	25.8758	0.4562
0.82	4.7626	0.7728	0.0352	0.1623	26.325	0.4567
0.855	4.7532	0.7544	0.0359	0.1587	26.8275	0.4572
0.895	4.7432	0.7365	0.0367	0.1553	27.446	0.4578
0.93	4.7341	0.7224	0.0374	0.1526	28.0041	0.4583
0.97	4.7232	0.706	0.0381	0.1495	28.5811	0.4589
1.015	4.7116	0.6873	0.0388	0.1459	29.1563	0.4595
1.055	4.7034	0.6706	0.0393	0.1426	29.5976	0.4599
1.1	4.6969	0.654	0.04	0.1392	30.1224	0.4603
1.15	4.6877	0.6358	0.0407	0.1356	30.646	0.4608
1.195	4.6799	0.6196	0.0412	0.1324	31.0627	0.4613
1.25	4.6778	0.6004	0.0417	0.1283	31.4974	0.4614
1.3	4.6814	0.5888	0.0426	0.1258	32.1145	0.4613
1.36	4.6872	0.5892	0.0446	0.1257	33.6013	0.461
1.415	4.6759	0.6008	0.0473	0.1285	35.6874	0.4615
1.475	4.6453	0.5931	0.0486	0.1277	36.8469	0.463
1.54	4.6312	0.5695	0.0488	0.123	37.0019	0.4638
1.605	4.6275	0.554	0.0494	0.1197	37.5277	0.464
1.675	4.624	0.5436	0.0506	0.1176	38.4498	0.4642
1.745	4.6191	0.5355	0.052	0.1159	39.485	0.4645
1.82	4.6138	0.528	0.0534	0.1144	40.6261	0.4648
1.9	4.6082	0.5197	0.0549	0.1128	41.7762	0.4651
1.98	4.6048	0.5124	0.0564	0.1113	42.9382	0.4653
2.065	4.603	0.5083	0.0584	0.1104	44.4334	0.4654
2.155	4.5982	0.5082	0.0609	0.1105	46.3829	0.4656
2.25	4.5902	0.5064	0.0634	0.1103	48.3015	0.466
2.345	4.5825	0.505	0.0658	0.1102	50.2383	0.4664
2.445	4.5728	0.5038	0.0685	0.1102	52.3199	0.4669
2.55	4.562	0.4984	0.0707	0.1093	54.0445	0.4675
2.66	4.5541	0.4901	0.0725	0.1076	55.4886	0.4679
2.775	4.555	0.4839	0.0747	0.1062	57.1493	0.4679
2.89	4.556	0.4906	0.0788	0.1077	60.3305	0.4678
3.015	4.5418	0.4954	0.0831	0.1091	63.6599	0.4685
3.145	4.5326	0.4929	0.0862	0.1087	66.1292	0.469
3.28	4.5248	0.4922	0.0898	0.1088	68.937	0.4694
3.42	4.5166	0.4907	0.0933	0.1086	71.7184	0.4698
3.57	4.5136	0.4885	0.097	0.1082	74.5583	0.47
3.72	4.51	0.4953	0.1025	0.1098	78.7997	0.4702
3.88	4.4999	0.4995	0.1078	0.111	82.9786	0.4707
4.045	4.4919	0.5017	0.1128	0.1117	86.9627	0.4711

TC27.5E73N , File: 5SP61318  
20 deg C, Mv = 9.7%, 1.320 g/cc (dry)

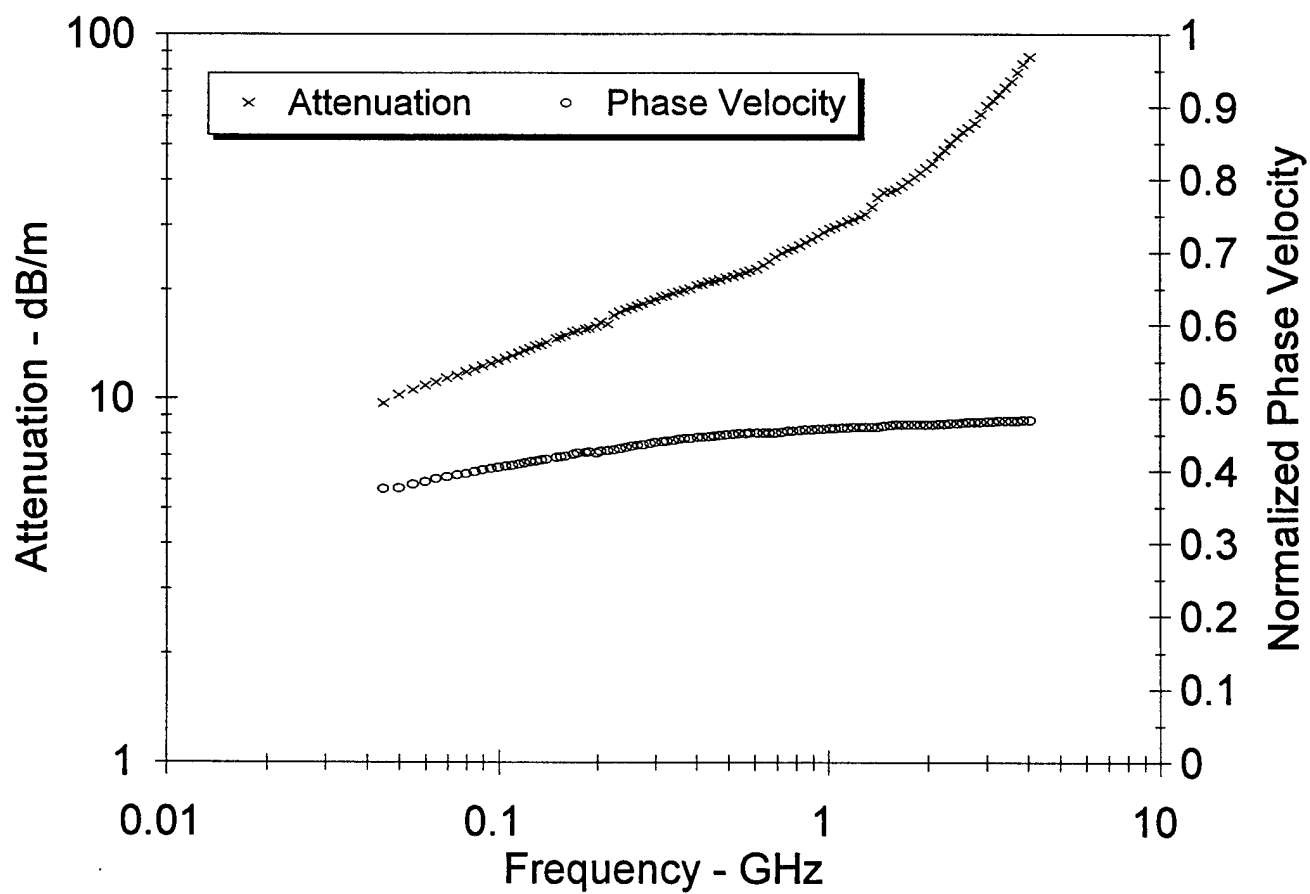


TC27.5E73N , File: 5SP61318  
20 deg C, Mv = 9.7%, 1.320 g/cc (dry)





TC27.5E73N , File: 5SP61318  
20 deg C, Mv = 9.7%, 1.320 g/cc (dry)



5SP61328

SB77.5E60.5N

9.7

4

SB77.5E60.5N , File: 5SP61328

24.1

20 deg C, Mv = 24.1%, 1.330 g/cc (dry)

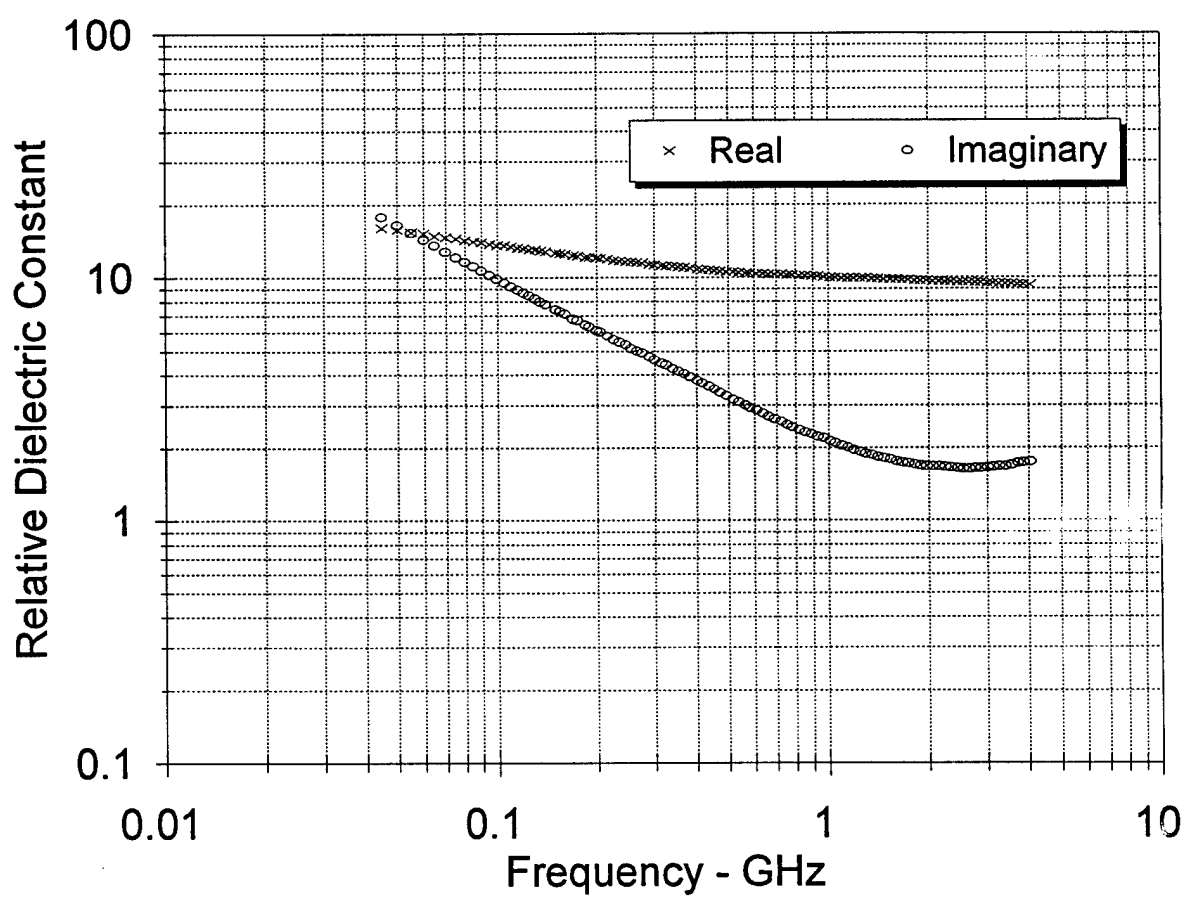
20

1.33

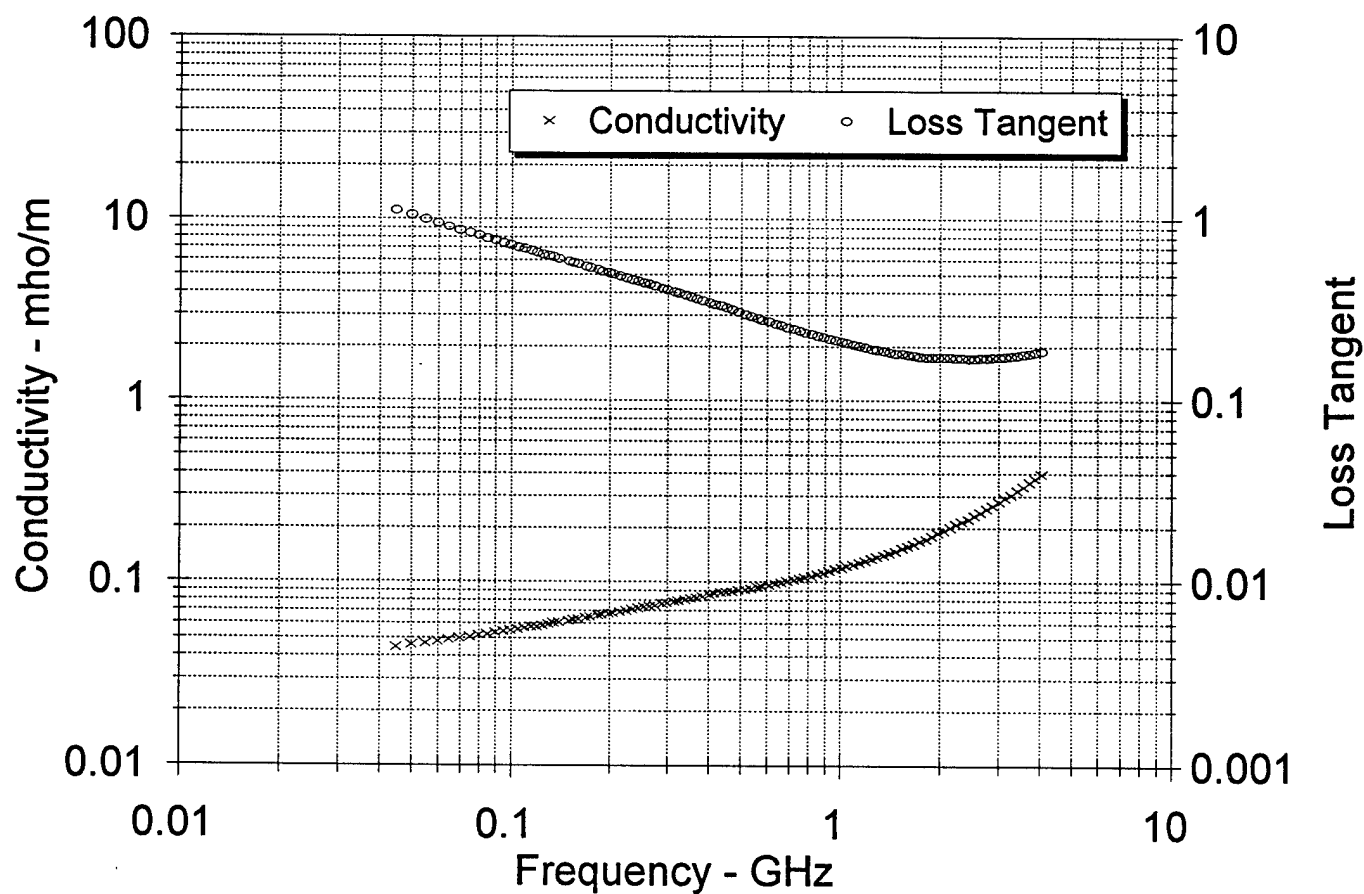
0.045	16.0316	17.8011	0.0445	1.1104	16.2951	0.2236
0.05	15.6808	16.4242	0.0457	1.0474	17.0494	0.2283
0.055	15.3685	15.2631	0.0467	0.9931	17.7458	0.2324
0.06	15.1204	14.3263	0.0478	0.9475	18.4414	0.2359
0.065	14.8513	13.4696	0.0487	0.907	19.0636	0.2394
0.07	14.6326	12.7466	0.0496	0.8711	19.6728	0.2424
0.075	14.4267	12.1174	0.0505	0.8399	20.2685	0.2452
0.08	14.2526	11.5736	0.0515	0.812	20.8557	0.2476
0.085	14.0655	11.0653	0.0523	0.7867	21.4006	0.2501
0.09	13.9008	10.6205	0.0532	0.764	21.9442	0.2524
0.095	13.751	10.2028	0.0539	0.742	22.4391	0.2545
0.1	13.6044	9.8363	0.0547	0.723	22.9514	0.2565
0.105	13.4837	9.4929	0.0554	0.704	23.4194	0.2583
0.11	13.3659	9.1955	0.0562	0.688	23.9199	0.26
0.115	13.2487	8.9052	0.0569	0.6722	24.3735	0.2617
0.12	13.1353	8.6355	0.0576	0.6574	24.8151	0.2633
0.125	13.0374	8.3993	0.0584	0.6442	25.2777	0.2647
0.13	12.9404	8.1708	0.0591	0.6314	25.7099	0.2661
0.135	12.8516	7.9588	0.0597	0.6193	26.1342	0.2674
0.14	12.764	7.7588	0.0604	0.6079	26.5478	0.2687
0.15	12.6032	7.3994	0.0617	0.5871	27.3664	0.2711
0.155	12.5267	7.2337	0.0623	0.5775	27.7609	0.2722
0.16	12.4513	7.0752	0.0629	0.5682	28.1431	0.2733
0.17	12.3181	6.7854	0.0641	0.5508	28.889	0.2753
0.175	12.2555	6.6499	0.0647	0.5426	29.2463	0.2763
0.185	12.1371	6.3981	0.0658	0.5272	29.9428	0.2781
0.19	12.0828	6.2791	0.0663	0.5197	30.2721	0.279
0.2	11.9826	6.0649	0.0674	0.5061	30.9518	0.2805
0.205	11.9314	5.9647	0.068	0.4999	31.2888	0.2813
0.215	11.8408	5.7734	0.069	0.4876	31.9254	0.2828
0.225	11.7558	5.5979	0.07	0.4762	32.5498	0.2841
0.235	11.6794	5.4424	0.0711	0.466	33.1939	0.2853
0.245	11.6048	5.2889	0.0721	0.4558	33.773	0.2865
0.255	11.5338	5.1478	0.073	0.4463	34.3503	0.2877
0.265	11.4691	5.0175	0.0739	0.4375	34.9215	0.2887
0.275	11.4073	4.8941	0.0748	0.429	35.4725	0.2898
0.29	11.3202	4.7249	0.0762	0.4174	36.2924	0.2912
0.3	11.2658	4.6188	0.077	0.41	36.8139	0.2921
0.315	11.1887	4.4698	0.0783	0.3995	37.5717	0.2934
0.325	11.1415	4.3786	0.0791	0.393	38.0758	0.2942
0.34	11.0714	4.2471	0.0803	0.3836	38.7911	0.2953
0.355	11.008	4.127	0.0815	0.3749	39.4998	0.2964
0.37	10.9482	4.0159	0.0826	0.3668	40.1974	0.2974
0.385	10.8897	3.9119	0.0837	0.3592	40.8788	0.2984
0.405	10.8155	3.7809	0.0851	0.3496	41.7364	0.2997
0.42	10.7636	3.6888	0.0862	0.3427	42.3536	0.3005
0.44	10.694	3.5718	0.0874	0.334	43.1317	0.3017
0.455	10.6485	3.4861	0.0882	0.3274	43.6464	0.3025
0.475	10.5948	3.3739	0.0891	0.3184	44.2395	0.3035

0.495	10.5508	3.2713	0.09	0.3101	44.821	0.3043
0.52	10.5081	3.1558	0.0913	0.3003	45.5465	0.3051
0.54	10.4777	3.0743	0.0923	0.2934	46.1661	0.3057
0.565	10.4405	2.9829	0.0937	0.2857	46.9755	0.3064
0.585	10.4122	2.9158	0.0948	0.28	47.6257	0.307
0.61	10.3787	2.8377	0.0963	0.2734	48.4299	0.3076
0.64	10.3405	2.7513	0.0979	0.2661	49.379	0.3083
0.665	10.3104	2.6848	0.0993	0.2604	50.1591	0.3089
0.695	10.2763	2.6109	0.1009	0.2541	51.0833	0.3095
0.725	10.245	2.5439	0.1026	0.2483	52.0176	0.3101
0.755	10.2118	2.4852	0.1043	0.2434	53.0209	0.3107
0.785	10.1901	2.4262	0.1059	0.2381	53.8944	0.3111
0.82	10.1612	2.3674	0.1079	0.233	55.0268	0.3116
0.855	10.1344	2.3142	0.11	0.2284	56.174	0.3121
0.895	10.1057	2.261	0.1125	0.2237	57.5458	0.3126
0.93	10.0797	2.2198	0.1148	0.2202	58.7943	0.3131
0.97	10.0487	2.1765	0.1174	0.2166	60.2296	0.3136
1.015	10.0125	2.1267	0.12	0.2124	61.7083	0.3143
1.055	9.9851	2.0825	0.1222	0.2086	62.9031	0.3148
1.1	9.9591	2.038	0.1247	0.2046	64.2816	0.3152
1.15	9.9324	1.9943	0.1275	0.2008	65.8628	0.3157
1.195	9.9105	1.9591	0.1302	0.1977	67.3166	0.3161
1.25	9.8863	1.9204	0.1335	0.1942	69.1193	0.3166
1.3	9.866	1.8882	0.1365	0.1914	70.7637	0.3169
1.36	9.8439	1.8541	0.1402	0.1884	72.784	0.3173
1.415	9.8247	1.8273	0.1438	0.186	74.7132	0.3177
1.475	9.8048	1.8012	0.1477	0.1837	76.855	0.318
1.54	9.7837	1.7768	0.1522	0.1816	79.2489	0.3184
1.605	9.7631	1.7541	0.1565	0.1797	81.6278	0.3188
1.675	9.7428	1.7335	0.1615	0.1779	84.2845	0.3191
1.745	9.7232	1.7156	0.1665	0.1764	86.9927	0.3195
1.82	9.7036	1.6987	0.1719	0.1751	89.935	0.3198
1.9	9.6858	1.6851	0.178	0.174	93.2262	0.3201
1.98	9.6663	1.6778	0.1847	0.1736	96.8261	0.3204
2.065	9.6423	1.6706	0.1918	0.1733	100.6795	0.3208
2.155	9.6168	1.6623	0.1992	0.1729	104.6863	0.3213
2.25	9.5932	1.6529	0.2068	0.1723	108.8172	0.3217
2.345	9.5714	1.6439	0.2144	0.1717	112.9218	0.3221
2.445	9.5529	1.6369	0.2225	0.1713	117.3516	0.3224
2.55	9.5349	1.6338	0.2317	0.1713	122.2747	0.3227
2.66	9.516	1.6347	0.2418	0.1718	127.7442	0.323
2.775	9.495	1.6381	0.2528	0.1725	133.6915	0.3233
2.89	9.4745	1.6417	0.2638	0.1733	139.681	0.3237
3.015	9.4532	1.6481	0.2763	0.1743	146.4546	0.324
3.145	9.4315	1.656	0.2896	0.1756	153.6659	0.3244
3.28	9.4105	1.6654	0.3037	0.177	161.3403	0.3247
3.42	9.3896	1.6772	0.319	0.1786	169.6019	0.3251
3.57	9.3676	1.6938	0.3362	0.1808	178.9832	0.3254
3.72	9.3435	1.7135	0.3544	0.1834	188.8897	0.3258
3.88	9.3158	1.7322	0.3737	0.1859	199.4417	0.3262
4.045	9.2861	1.7482	0.3932	0.1883	210.1502	0.3267

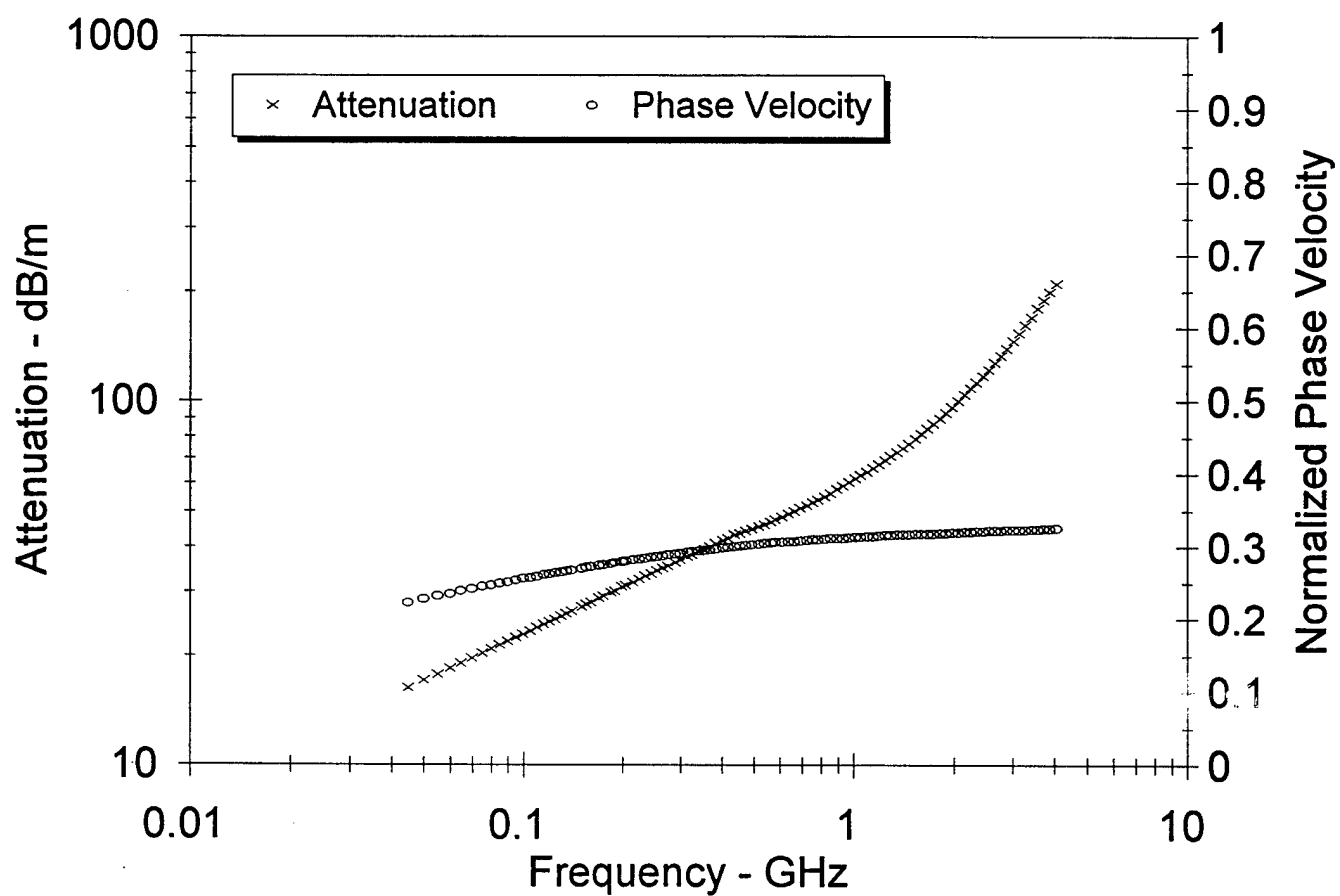
SB77.5E60.5N , File: 5SP61328  
20 deg C, Mv = 24.1%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 5SP61328  
20 deg C, Mv = 24.1%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 5SP61328  
20 deg C, Mv = 24.1%, 1.330 g/cc (dry)



5SP61339

TC40E23N

4.9

1

TC40E23N , File: 5SP61339

11.2

20 deg C, Mv = 11.2%, 1.360 g/cc (dry)

20

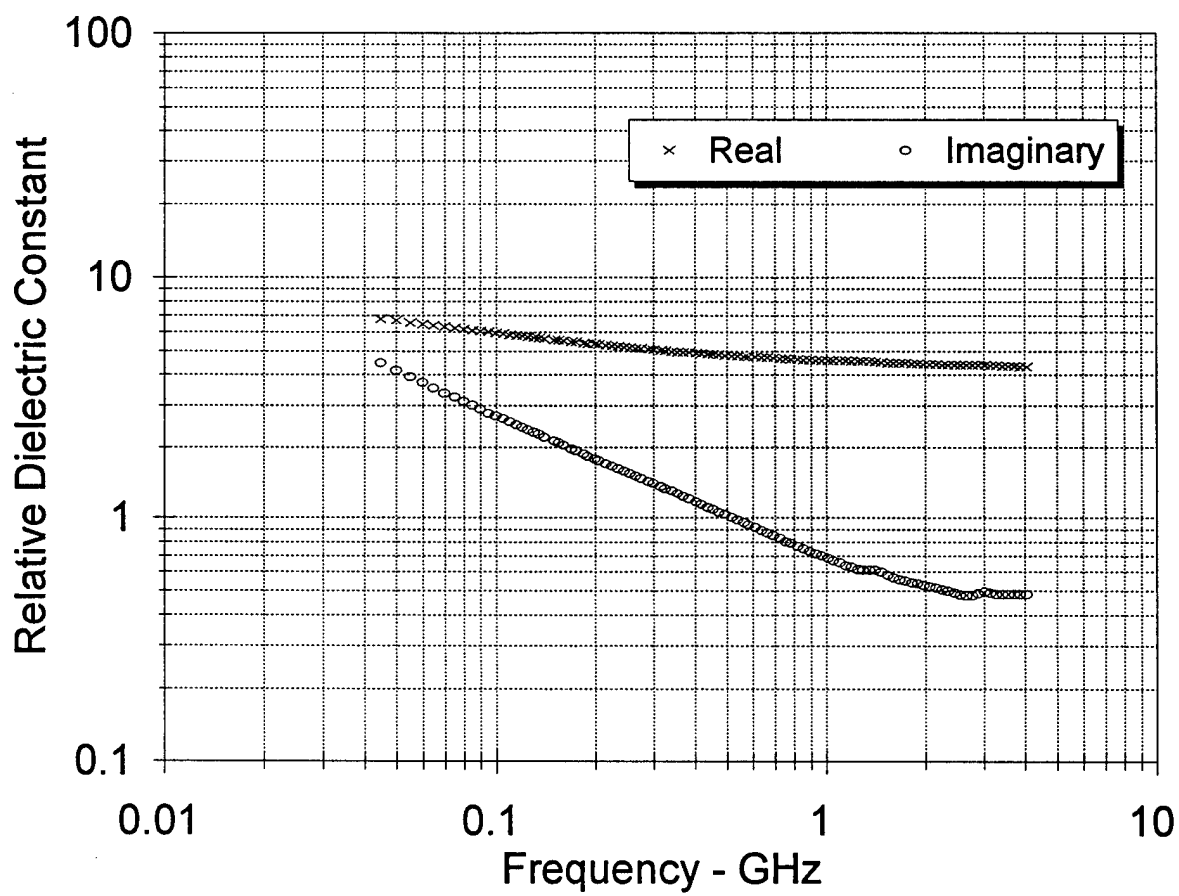
1.36

0.045	6.7852	4.4563	0.0112	0.6568	6.6821	0.3663
0.05	6.6674	4.1611	0.0116	0.6241	7.0218	0.371
0.055	6.5315	3.9036	0.0119	0.5977	7.3444	0.3761
0.06	6.4288	3.7032	0.0124	0.576	7.6805	0.38
0.065	6.345	3.5194	0.0127	0.5547	7.9793	0.3835
0.07	6.2773	3.358	0.0131	0.5349	8.2612	0.3864
0.075	6.2054	3.2194	0.0134	0.5188	8.5501	0.3893
0.08	6.1434	3.0894	0.0137	0.5029	8.8107	0.3919
0.085	6.0821	2.9829	0.0141	0.4904	9.0963	0.3944
0.09	6.0226	2.8807	0.0144	0.4783	9.3588	0.3969
0.095	5.9617	2.7759	0.0147	0.4656	9.58	0.3994
0.1	5.9179	2.6978	0.015	0.4559	9.8466	0.4013
0.105	5.8842	2.6275	0.0153	0.4465	10.1073	0.4028
0.11	5.8332	2.5505	0.0156	0.4372	10.3325	0.4049
0.115	5.7902	2.4826	0.0159	0.4288	10.5619	0.4067
0.12	5.75	2.4214	0.0162	0.4211	10.7945	0.4084
0.125	5.7152	2.3619	0.0164	0.4133	11.0094	0.41
0.13	5.6793	2.3099	0.0167	0.4067	11.2397	0.4115
0.135	5.6498	2.259	0.017	0.3998	11.4519	0.4128
0.14	5.6173	2.2075	0.0172	0.393	11.6458	0.4143
0.15	5.5588	2.1257	0.0177	0.3824	12.0896	0.4168
0.155	5.5323	2.0857	0.018	0.377	12.2924	0.418
0.16	5.5015	2.043	0.0182	0.3714	12.4702	0.4194
0.17	5.4546	1.9674	0.0186	0.3607	12.8248	0.4216
0.175	5.4305	1.9297	0.0188	0.3553	12.9835	0.4227
0.185	5.3888	1.8633	0.0192	0.3458	13.3148	0.4247
0.19	5.3641	1.8304	0.0193	0.3412	13.4692	0.4258
0.2	5.3347	1.7787	0.0198	0.3334	13.824	0.4272
0.205	5.313	1.7503	0.02	0.3294	13.9756	0.4282
0.215	5.2837	1.6994	0.0203	0.3216	14.2788	0.4297
0.225	5.252	1.6563	0.0207	0.3154	14.6146	0.4312
0.235	5.2217	1.6182	0.0211	0.3099	14.9628	0.4326
0.245	5.1938	1.578	0.0215	0.3038	15.2594	0.4339
0.255	5.1657	1.5394	0.0218	0.298	15.5419	0.4353
0.265	5.1412	1.5057	0.0222	0.2929	15.8405	0.4365
0.275	5.1139	1.4715	0.0225	0.2877	16.1137	0.4378
0.29	5.081	1.4293	0.023	0.2813	16.5657	0.4394
0.3	5.0596	1.401	0.0234	0.2769	16.8381	0.4404
0.315	5.0309	1.3606	0.0238	0.2704	17.2262	0.4419
0.325	5.0113	1.3342	0.0241	0.2662	17.4671	0.4429
0.34	4.9886	1.3015	0.0246	0.2609	17.8712	0.444
0.355	4.9675	1.2698	0.0251	0.2556	18.2497	0.4451
0.37	4.9433	1.2377	0.0255	0.2504	18.5926	0.4463
0.385	4.923	1.208	0.0259	0.2454	18.9257	0.4474
0.405	4.8984	1.1695	0.0263	0.2388	19.3305	0.4487
0.42	4.8827	1.1428	0.0267	0.2341	19.6258	0.4495
0.44	4.8598	1.1122	0.0272	0.2288	20.0615	0.4507
0.455	4.846	1.0901	0.0276	0.225	20.3679	0.4515
0.475	4.8261	1.0624	0.0281	0.2201	20.7706	0.4525

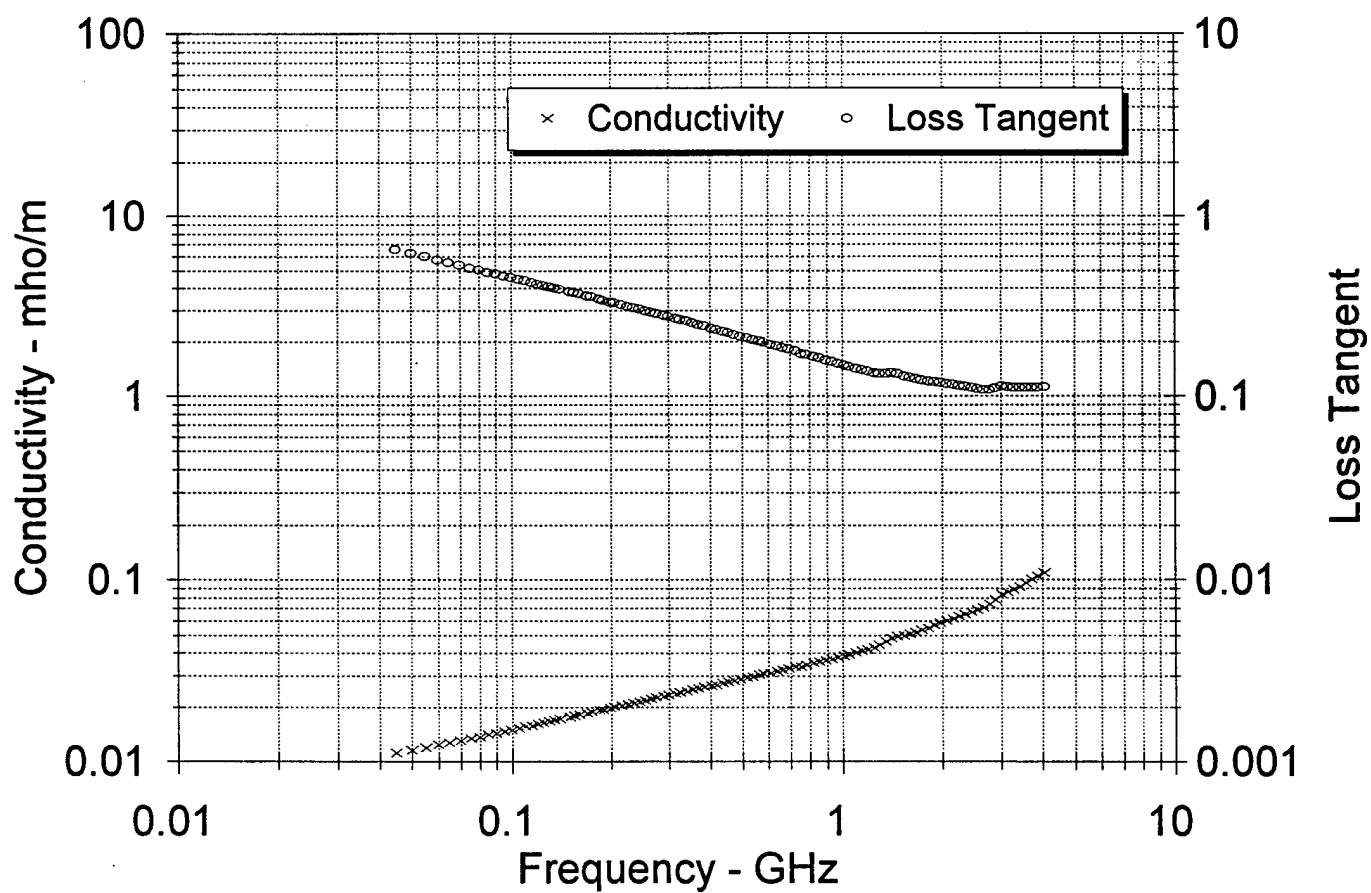
0.495	4.807	1.0366	0.0285	0.2156	21.166	0.4535
0.52	4.7847	1.0074	0.0291	0.2105	21.6647	0.4547
0.54	4.7676	0.9854	0.0296	0.2067	22.0514	0.4556
0.565	4.7494	0.9596	0.0301	0.202	22.5155	0.4566
0.585	4.7349	0.94	0.0306	0.1985	22.8764	0.4573
0.61	4.7183	0.917	0.0311	0.1944	23.3152	0.4582
0.64	4.705	0.8902	0.0317	0.1892	23.7864	0.459
0.665	4.6932	0.8712	0.0322	0.1856	24.2223	0.4596
0.695	4.6793	0.8497	0.0328	0.1816	24.7311	0.4604
0.725	4.6669	0.8296	0.0334	0.1778	25.2264	0.4611
0.755	4.6509	0.7956	0.0334	0.1711	25.2434	0.462
0.785	4.6419	0.7901	0.0345	0.1702	26.0918	0.4625
0.82	4.6284	0.7687	0.0351	0.1661	26.5592	0.4632
0.855	4.6158	0.7496	0.0356	0.1624	27.0456	0.4639
0.895	4.6036	0.7301	0.0363	0.1586	27.6153	0.4646
0.93	4.594	0.7154	0.037	0.1557	28.1485	0.4652
0.97	4.5847	0.6993	0.0377	0.1525	28.7337	0.4657
1.015	4.5729	0.6828	0.0385	0.1493	29.3966	0.4663
1.055	4.5665	0.667	0.0391	0.1461	29.8746	0.4667
1.1	4.5631	0.6532	0.04	0.1431	30.5164	0.4669
1.15	4.5541	0.6379	0.0408	0.1401	31.1903	0.4675
1.195	4.5461	0.6268	0.0416	0.1379	31.8768	0.4679
1.25	4.5385	0.6153	0.0428	0.1356	32.7619	0.4683
1.3	4.5344	0.6088	0.044	0.1343	33.7299	0.4686
1.36	4.5283	0.6082	0.046	0.1343	35.2793	0.4689
1.415	4.5138	0.6098	0.048	0.1351	36.8571	0.4696
1.475	4.4899	0.5994	0.0492	0.1335	37.8663	0.4709
1.54	4.4756	0.5803	0.0497	0.1297	38.3446	0.4717
1.605	4.4693	0.5671	0.0506	0.1269	39.0827	0.4721
1.675	4.4628	0.5572	0.0519	0.1249	40.1086	0.4724
1.745	4.456	0.5495	0.0533	0.1233	41.243	0.4728
1.82	4.4485	0.5426	0.0549	0.122	42.5068	0.4732
1.9	4.4391	0.536	0.0566	0.1207	43.8831	0.4738
1.98	4.4305	0.5291	0.0583	0.1194	45.1887	0.4742
2.065	4.4208	0.5218	0.0599	0.118	46.536	0.4748
2.155	4.4122	0.5144	0.0616	0.1166	47.9204	0.4753
2.25	4.4038	0.5069	0.0634	0.1151	49.3533	0.4757
2.345	4.3969	0.4993	0.0651	0.1136	50.7069	0.4761
2.445	4.391	0.4916	0.0668	0.1119	52.0887	0.4765
2.55	4.3874	0.4844	0.0687	0.1104	53.5526	0.4767
2.66	4.3856	0.4789	0.0708	0.1092	55.246	0.4768
2.775	4.3886	0.4782	0.0738	0.109	57.5315	0.4766
2.89	4.3868	0.4889	0.0786	0.1114	61.266	0.4767
3.015	4.3676	0.4967	0.0833	0.1137	65.067	0.4777
3.145	4.3541	0.4909	0.0858	0.1127	67.1873	0.4785
3.28	4.3466	0.4867	0.0888	0.112	69.5419	0.4789
3.42	4.3399	0.4855	0.0923	0.1119	72.3809	0.4793
3.57	4.3326	0.4852	0.0963	0.112	75.5694	0.4797
3.72	4.325	0.4853	0.1004	0.1122	78.8366	0.4801
3.88	4.3168	0.4851	0.1047	0.1124	82.2776	0.4805
4.045	4.3109	0.485	0.1091	0.1125	85.8168	0.4809



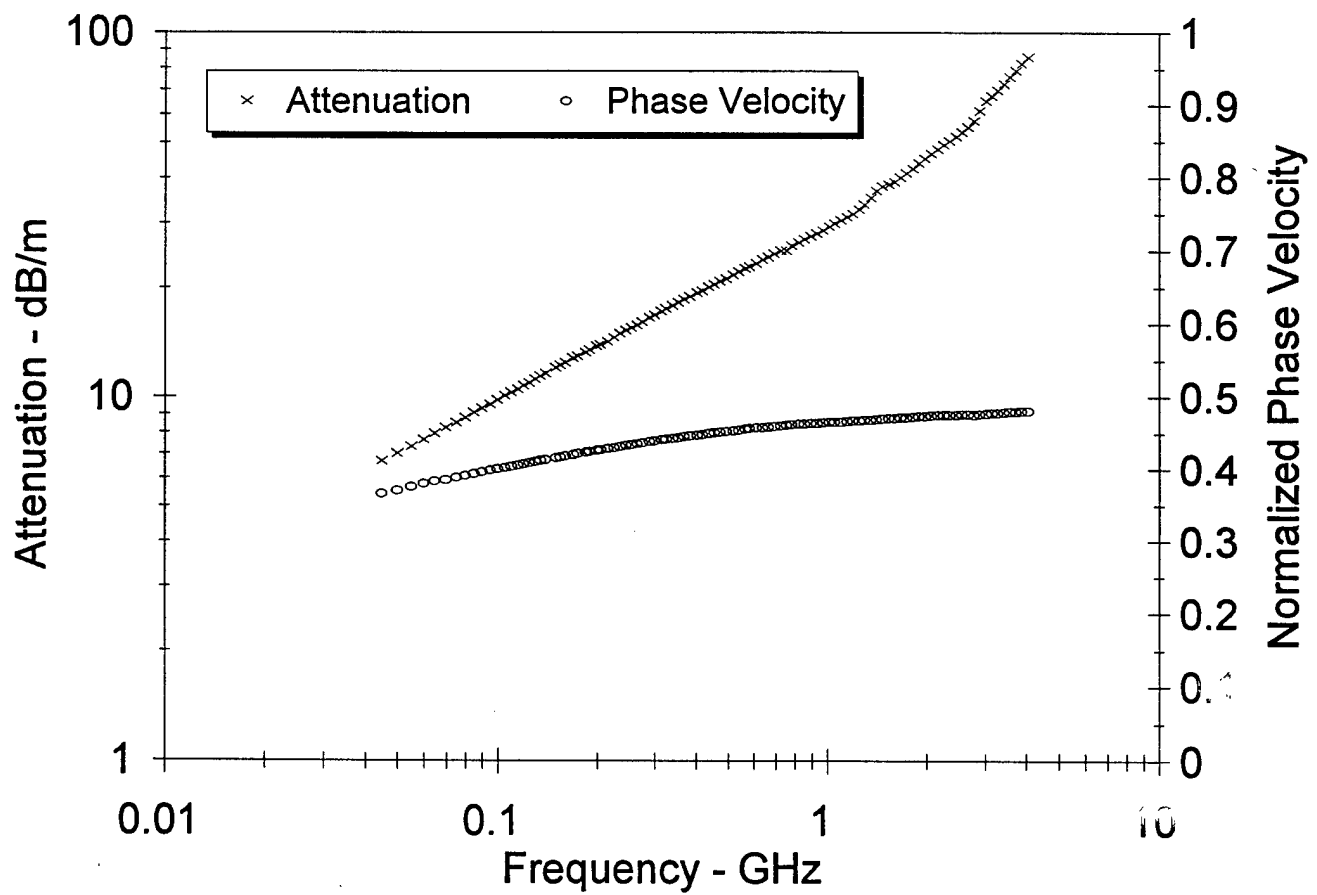
TC40E23N , File: 5SP61339  
20 deg C, Mv = 11.2%, 1.360 g/cc (dry)



TC40E23N , File: 5SP61339  
20 deg C, Mv = 11.2%, 1.360 g/cc (dry)



TC40E23N , File: 5SP61339  
20 deg C, Mv = 11.2%, 1.360 g/cc (dry)



5SP61351  
7B40E23N

4.9

3

19.8

20

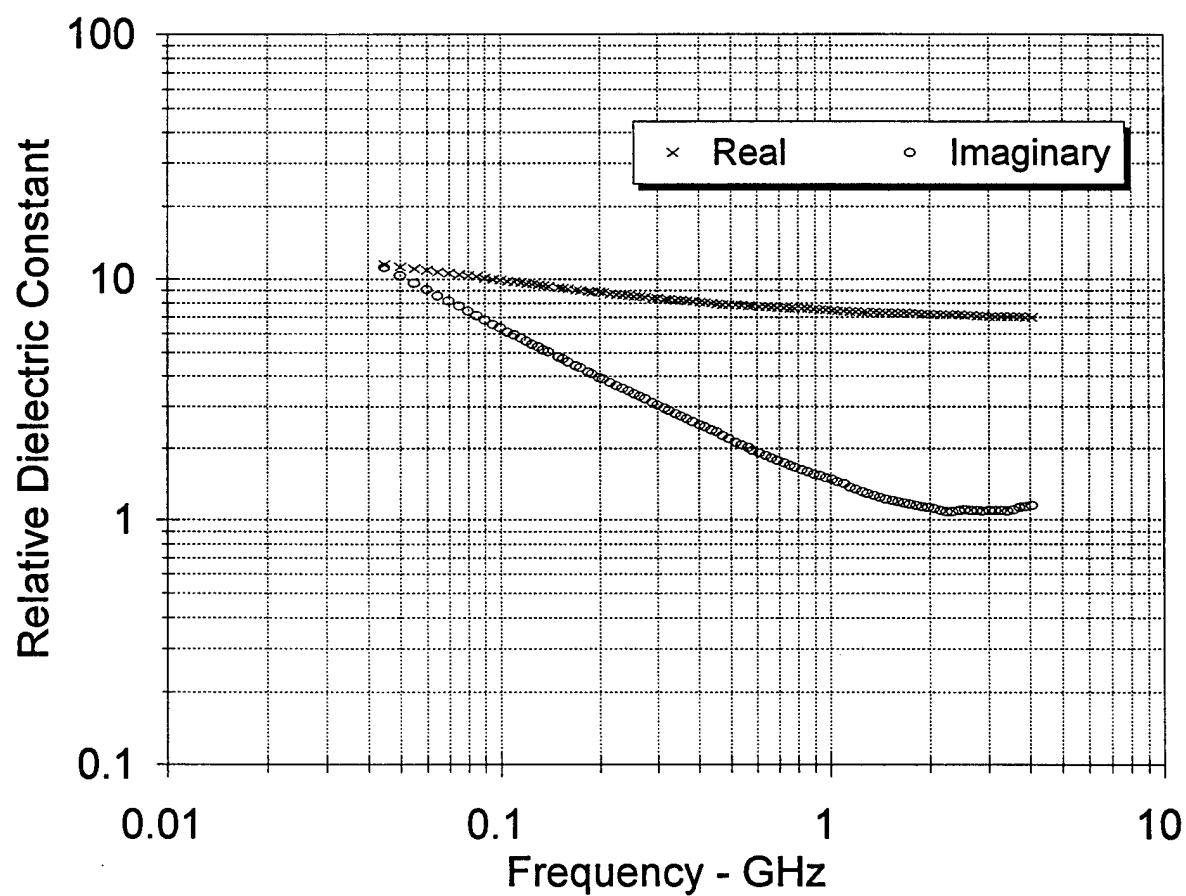
1.31

SB40E23N , File: 5SP61351  
20 deg C, Mv = 19.8%, 1.310 g/cc (dry)

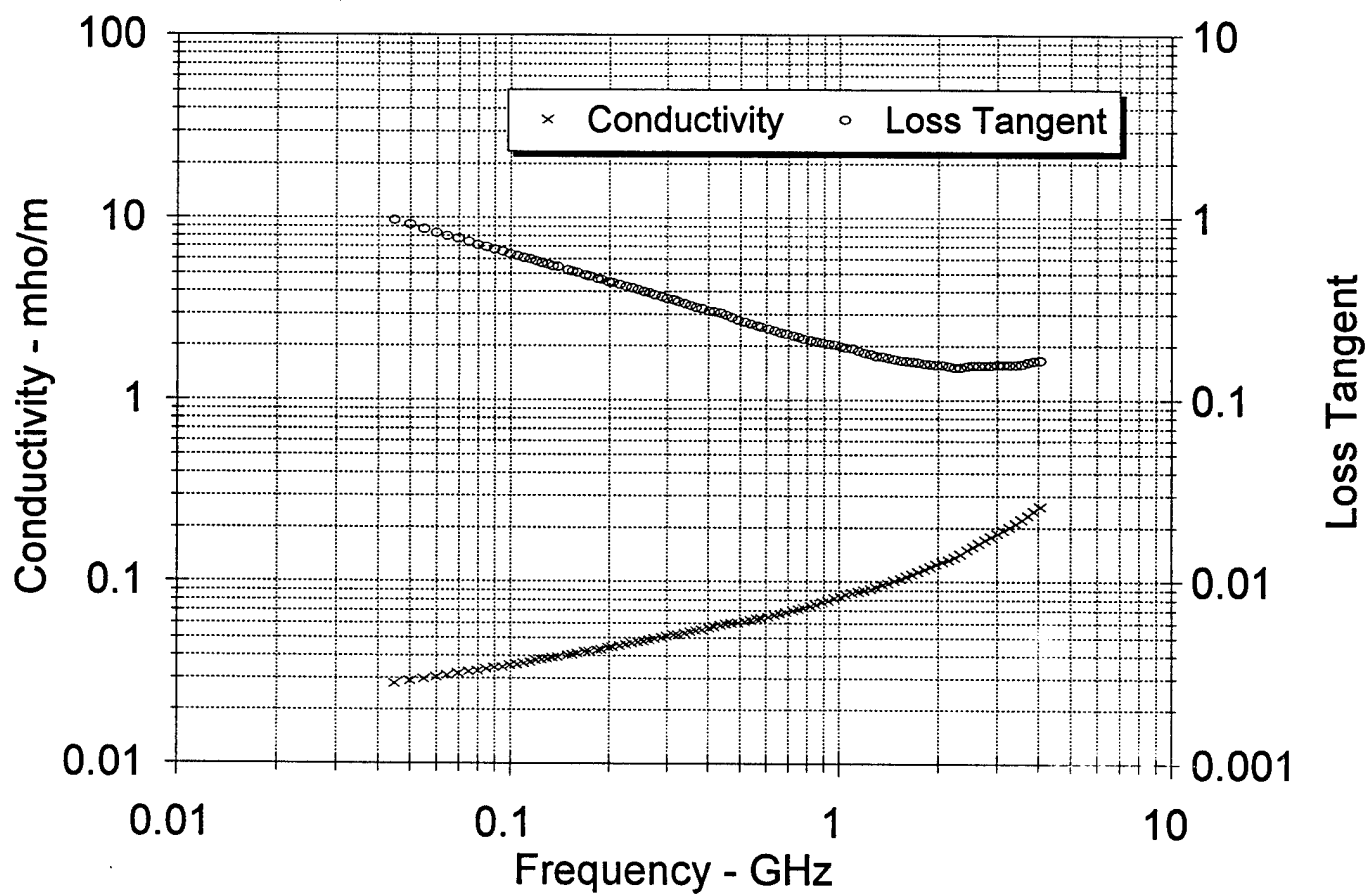
0.045	11.4843	11.196	0.028	0.9749	12.3534	0.2696
0.05	11.2808	10.3559	0.0288	0.918	12.9158	0.2742
0.055	11.0557	9.6508	0.0295	0.8729	13.4603	0.2788
0.06	10.929	9.0477	0.0302	0.8279	13.9335	0.2822
0.065	10.7354	8.571	0.031	0.7984	14.4865	0.2859
0.07	10.5929	8.1256	0.0316	0.7671	14.9528	0.289
0.075	10.4682	7.7374	0.0323	0.7391	15.4033	0.2918
0.08	10.3439	7.3884	0.0329	0.7143	15.8348	0.2945
0.085	10.2339	7.0824	0.0335	0.6921	16.2608	0.297
0.09	10.1195	6.8122	0.0341	0.6732	16.6939	0.2994
0.095	9.9968	6.5342	0.0345	0.6536	17.0475	0.3019
0.1	9.9143	6.3218	0.0352	0.6376	17.468	0.3038
0.105	9.8024	6.083	0.0355	0.6206	17.786	0.3061
0.11	9.7526	5.917	0.0362	0.6067	18.201	0.3074
0.115	9.6641	5.7417	0.0367	0.5941	18.5767	0.3093
0.12	9.5923	5.5826	0.0373	0.582	18.9448	0.3109
0.125	9.5247	5.4228	0.0377	0.5693	19.2652	0.3125
0.13	9.4519	5.2809	0.0382	0.5587	19.6103	0.314
0.135	9.3982	5.147	0.0386	0.5477	19.9299	0.3153
0.14	9.3343	5.0249	0.0391	0.5383	20.2678	0.3167
0.15	9.2248	4.8002	0.04	0.5204	20.9082	0.3192
0.155	9.1686	4.6977	0.0405	0.5124	21.2268	0.3205
0.16	9.1155	4.5959	0.0409	0.5042	21.5179	0.3217
0.17	9.0225	4.4105	0.0417	0.4888	22.089	0.3239
0.175	8.9778	4.3234	0.0421	0.4816	22.3619	0.3249
0.185	8.9015	4.1632	0.0428	0.4677	22.8934	0.3268
0.19	8.8632	4.0834	0.0431	0.4607	23.127	0.3277
0.2	8.7992	3.9516	0.0439	0.4491	23.671	0.3293
0.205	8.7648	3.8882	0.0443	0.4436	23.9332	0.3301
0.215	8.7016	3.7668	0.045	0.4329	24.4305	0.3316
0.225	8.6429	3.6548	0.0457	0.4229	24.9143	0.3331
0.235	8.5952	3.5629	0.0466	0.4145	25.4573	0.3343
0.245	8.5411	3.4626	0.0472	0.4054	25.8959	0.3356
0.255	8.4901	3.3673	0.0477	0.3966	26.3104	0.3369
0.265	8.4476	3.2858	0.0484	0.389	26.7655	0.3379
0.275	8.4068	3.2089	0.0491	0.3817	27.2086	0.339
0.29	8.3474	3.0993	0.05	0.3713	27.8355	0.3405
0.3	8.3099	3.0304	0.0506	0.3647	28.2351	0.3414
0.315	8.2605	2.9352	0.0514	0.3553	28.8225	0.3427
0.325	8.2246	2.8708	0.0519	0.3491	29.1636	0.3436
0.34	8.1872	2.7907	0.0528	0.3409	29.7453	0.3447
0.355	8.1388	2.7095	0.0535	0.3329	30.2625	0.3459
0.37	8.11	2.6465	0.0544	0.3263	30.8775	0.3467
0.385	8.0667	2.574	0.0551	0.3191	31.3501	0.3478
0.405	8.0315	2.5006	0.0563	0.3113	32.1263	0.3488
0.42	7.9969	2.4524	0.0573	0.3067	32.7559	0.3496
0.44	7.9386	2.3877	0.0584	0.3008	33.5465	0.3511
0.455	7.8995	2.3287	0.0589	0.2948	33.9317	0.3521
0.475	7.863	2.2493	0.0594	0.2861	34.3145	0.3531

0.495	7.8372	2.1817	0.0601	0.2784	34.7588	0.3539
0.52	7.8098	2.1107	0.061	0.2703	35.4068	0.3547
0.54	7.7884	2.0603	0.0619	0.2645	35.954	0.3553
0.565	7.762	2.0022	0.0629	0.2579	36.6341	0.356
0.585	7.7423	1.959	0.0637	0.253	37.1715	0.3566
0.61	7.7188	1.9098	0.0648	0.2474	37.8567	0.3573
0.64	7.6921	1.8553	0.066	0.2412	38.665	0.358
0.665	7.6704	1.8146	0.0671	0.2366	39.3606	0.3586
0.695	7.6458	1.7695	0.0684	0.2314	40.1906	0.3593
0.725	7.6226	1.7293	0.0697	0.2269	41.0454	0.3599
0.755	7.597	1.6915	0.071	0.2227	41.8892	0.3606
0.785	7.5792	1.6566	0.0723	0.2186	42.7138	0.3611
0.82	7.5554	1.6201	0.0739	0.2144	43.7149	0.3618
0.855	7.5329	1.5871	0.0755	0.2107	44.7269	0.3624
0.895	7.5094	1.5544	0.0774	0.207	45.9356	0.363
0.93	7.4891	1.529	0.0791	0.2042	47.0198	0.3635
0.97	7.465	1.5025	0.081	0.2013	48.2793	0.3642
1.015	7.4329	1.4739	0.0832	0.1983	49.6695	0.365
1.055	7.4083	1.4487	0.085	0.1956	50.8369	0.3657
1.1	7.3794	1.4192	0.0868	0.1923	52.0357	0.3664
1.15	7.3505	1.3775	0.0881	0.1874	52.9183	0.3672
1.195	7.3363	1.3435	0.0893	0.1831	53.6911	0.3677
1.25	7.325	1.3123	0.0912	0.1792	54.9107	0.368
1.3	7.3136	1.289	0.0932	0.1763	56.1461	0.3684
1.36	7.298	1.2653	0.0957	0.1734	57.7234	0.3688
1.415	7.2843	1.2457	0.098	0.171	59.1909	0.3692
1.475	7.2695	1.2271	0.1006	0.1688	60.8482	0.3696
1.54	7.2549	1.2085	0.1035	0.1666	62.631	0.37
1.605	7.2408	1.1921	0.1064	0.1646	64.4605	0.3704
1.675	7.2259	1.1776	0.1097	0.163	66.5242	0.3708
1.745	7.2114	1.1638	0.1129	0.1614	68.5654	0.3712
1.82	7.1966	1.1518	0.1166	0.16	70.8505	0.3716
1.9	7.1801	1.1405	0.1205	0.1588	73.3306	0.372
1.98	7.1644	1.1298	0.1244	0.1577	75.7825	0.3725
2.065	7.1467	1.117	0.1283	0.1563	78.2445	0.3729
2.155	7.1323	1.1001	0.1318	0.1542	80.5023	0.3733
2.25	7.1304	1.0827	0.1355	0.1518	82.7448	0.3734
2.345	7.1347	1.0846	0.1414	0.152	86.3643	0.3733
2.445	7.1233	1.0979	0.1493	0.1541	91.2171	0.3736
2.55	7.0965	1.1021	0.1563	0.1553	95.6702	0.3743
2.66	7.0827	1.1006	0.1628	0.1554	99.7631	0.3746
2.775	7.0599	1.0988	0.1696	0.1556	104.0702	0.3752
2.89	7.0457	1.0955	0.1761	0.1555	108.1693	0.3756
3.015	7.031	1.0964	0.1838	0.1559	113.0538	0.376
3.145	7.0153	1.0974	0.1919	0.1564	118.1669	0.3764
3.28	7.0002	1.0968	0.2	0.1567	123.3039	0.3768
3.42	6.992	1.0955	0.2083	0.1567	128.4883	0.377
3.57	6.9886	1.107	0.2198	0.1584	135.5581	0.3771
3.72	6.9739	1.1255	0.2328	0.1614	143.741	0.3775
3.88	6.9519	1.1419	0.2464	0.1643	152.3418	0.378
4.045	6.9291	1.1539	0.2595	0.1665	160.7263	0.3786

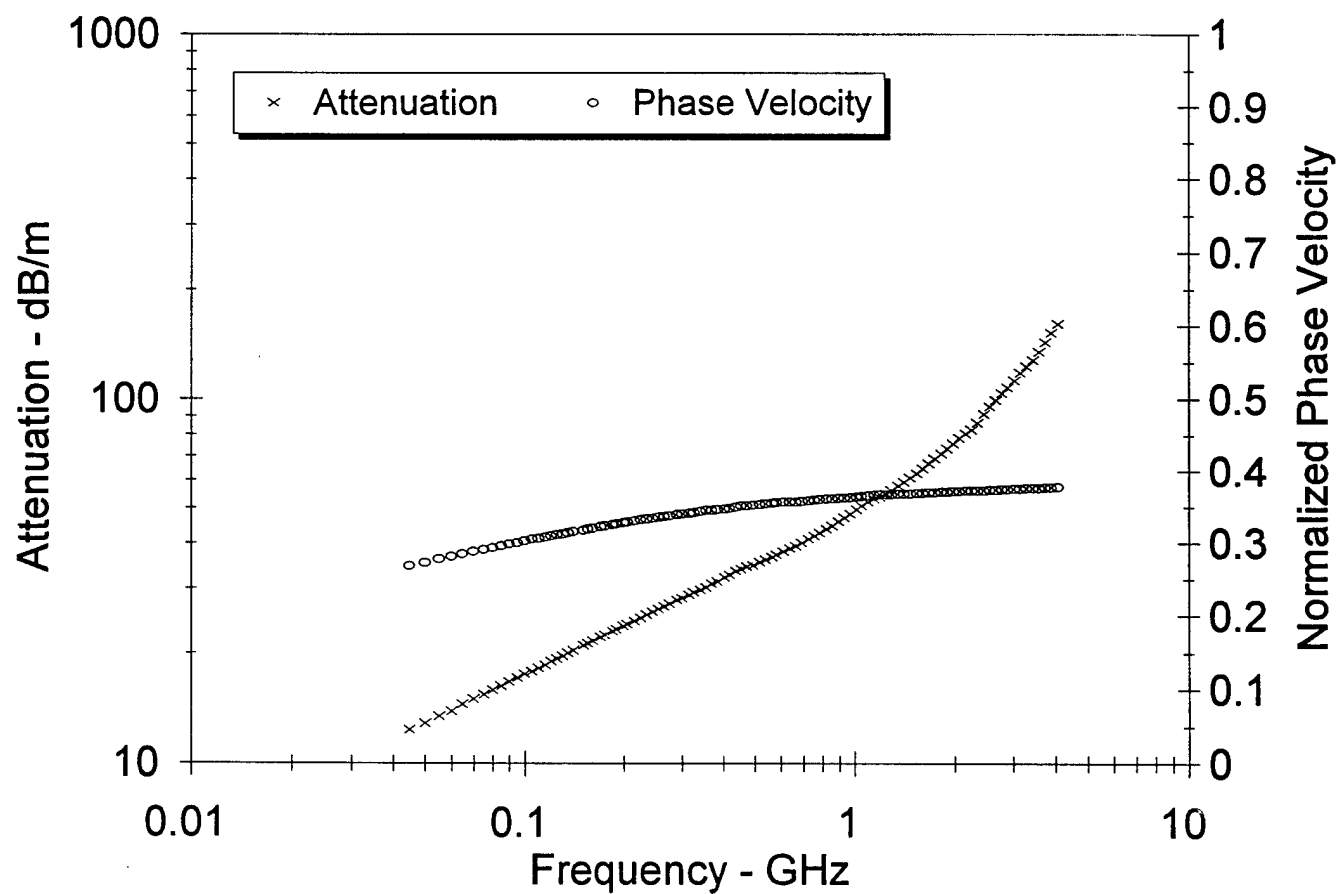
SB40E23N , File: 5SP61351  
20 deg C, Mv = 19.8%, 1.310 g/cc (dry)



SB40E23N , File: 5SP61351  
20 deg C, Mv = 19.8%, 1.310 g/cc (dry)



SB40E23N , File: 5SP61351  
20 deg C, Mv = 19.8%, 1.310 g/cc (dry)





5SP61418  
TC77.5E60.5N

4.9

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17.3

20

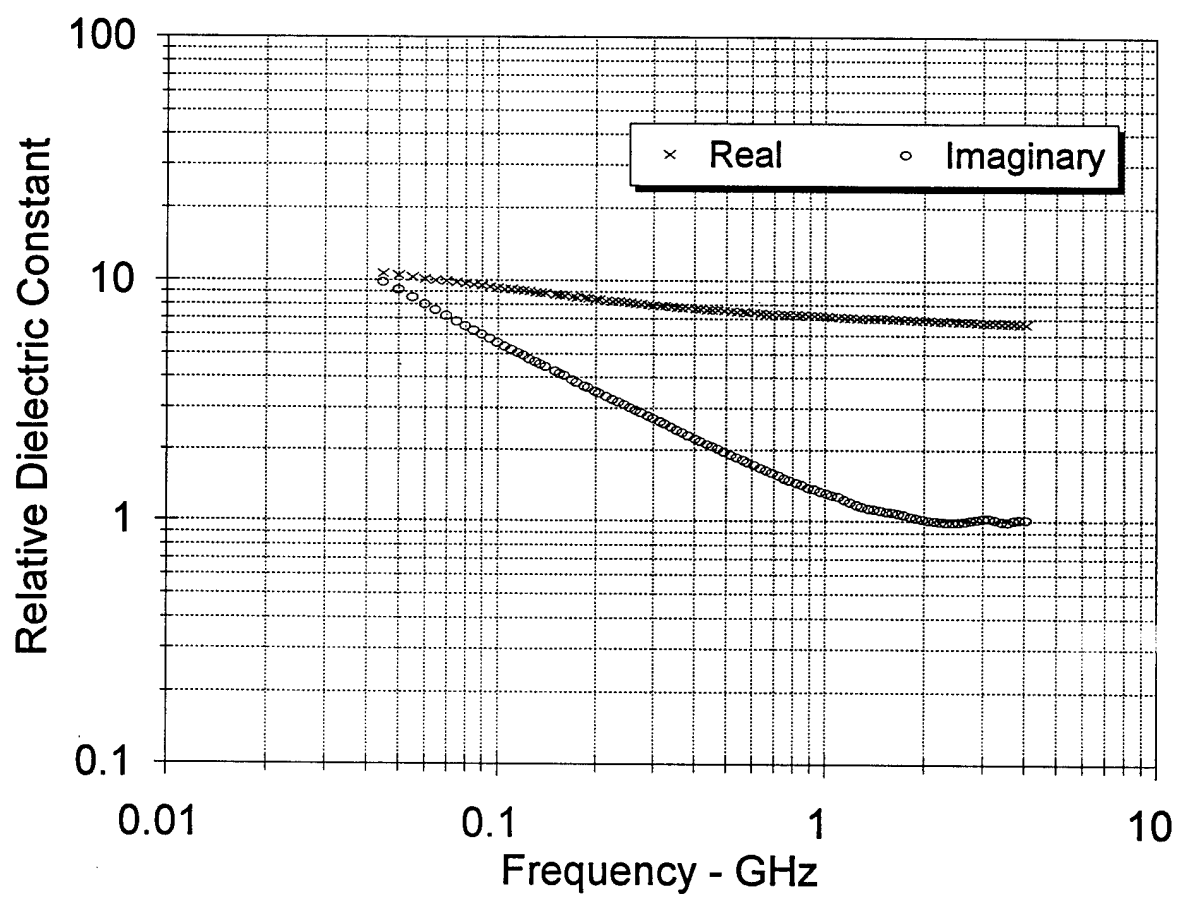
1.4

TC77.5E60.5N , File: 5SP61418  
20 deg C, Mv = 17.3%, 1.400 g/cc (dry)

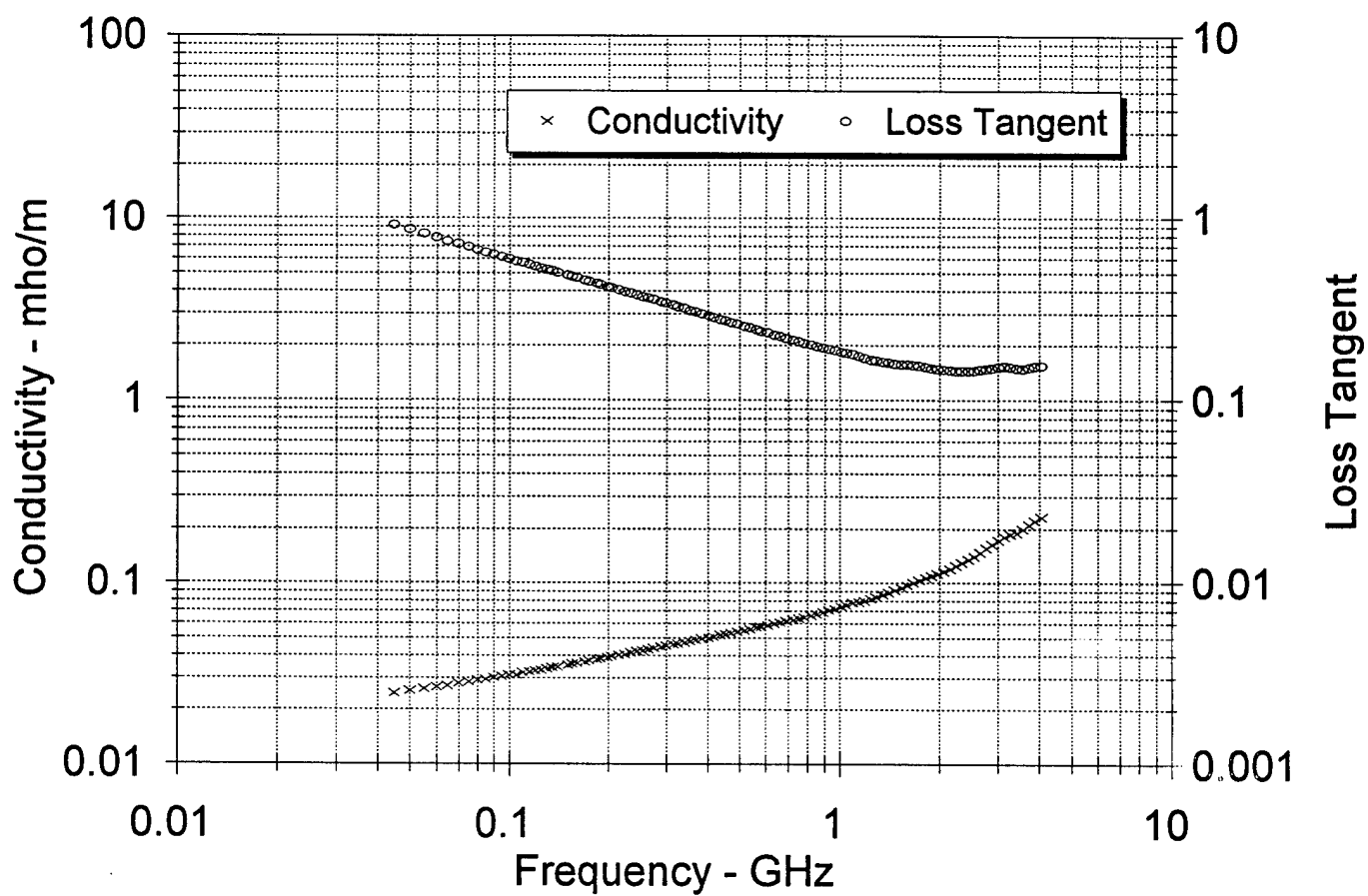
0.045	10.6302	9.7962	0.0245	0.9215	11.3218	0.2824
0.05	10.4476	9.0907	0.0253	0.8701	11.8619	0.2869
0.055	10.2652	8.4661	0.0259	0.8247	12.3371	0.2913
0.06	10.1197	7.9596	0.0266	0.7865	12.8111	0.2949
0.065	10.0009	7.4988	0.0271	0.7498	13.218	0.2981
0.07	9.8852	7.1151	0.0277	0.7198	13.6392	0.3011
0.075	9.7761	6.7804	0.0283	0.6936	14.0511	0.3038
0.08	9.6827	6.4886	0.0289	0.6701	14.455	0.3061
0.085	9.5802	6.2109	0.0294	0.6483	14.8201	0.3086
0.09	9.4846	5.9752	0.0299	0.63	15.2064	0.3109
0.095	9.399	5.7436	0.0303	0.6111	15.5348	0.313
0.1	9.3144	5.5438	0.0308	0.5952	15.8851	0.315
0.105	9.2135	5.3349	0.0311	0.579	16.1689	0.3173
0.11	9.1757	5.1939	0.0318	0.566	16.5499	0.3185
0.115	9.1059	5.0382	0.0322	0.5533	16.8723	0.3202
0.12	9.0441	4.8977	0.0327	0.5415	17.1961	0.3217
0.125	8.984	4.7641	0.0331	0.5303	17.5036	0.3231
0.13	8.9255	4.6406	0.0335	0.5199	17.8102	0.3246
0.135	8.8718	4.5227	0.034	0.5098	18.0996	0.3259
0.14	8.8213	4.4163	0.0344	0.5006	18.3984	0.3272
0.15	8.7234	4.2235	0.0352	0.4842	18.9904	0.3296
0.155	8.6787	4.1376	0.0357	0.4768	19.2883	0.3307
0.16	8.6289	4.0483	0.036	0.4692	19.552	0.3319
0.17	8.5488	3.8872	0.0367	0.4547	20.0692	0.3339
0.175	8.5093	3.8098	0.0371	0.4477	20.3092	0.3349
0.185	8.4411	3.6704	0.0378	0.4348	20.7935	0.3367
0.19	8.4059	3.6031	0.0381	0.4286	21.0199	0.3376
0.2	8.3507	3.4913	0.0388	0.4181	21.5315	0.339
0.205	8.3157	3.4348	0.0392	0.4131	21.7686	0.3399
0.215	8.2637	3.3293	0.0398	0.4029	22.2191	0.3413
0.225	8.2151	3.2346	0.0405	0.3937	22.6767	0.3426
0.235	8.1707	3.1528	0.0412	0.3859	23.1638	0.3437
0.245	8.1216	3.0688	0.0418	0.3779	23.5935	0.345
0.255	8.0739	2.986	0.0423	0.3698	23.9807	0.3462
0.265	8.0348	2.918	0.043	0.3632	24.4261	0.3473
0.275	7.9978	2.8495	0.0436	0.3563	24.8243	0.3483
0.29	7.9454	2.7565	0.0445	0.3469	25.426	0.3497
0.3	7.908	2.6961	0.045	0.3409	25.7996	0.3507
0.315	7.8627	2.6119	0.0457	0.3322	26.3369	0.3519
0.325	7.8346	2.5571	0.0462	0.3264	26.6627	0.3527
0.34	7.7949	2.4811	0.0469	0.3183	27.1495	0.3538
0.355	7.7477	2.4071	0.0475	0.3107	27.6006	0.3551
0.37	7.7222	2.3489	0.0483	0.3042	28.1308	0.3559
0.385	7.6893	2.2882	0.049	0.2976	28.5888	0.3568
0.405	7.65	2.2122	0.0498	0.2892	29.1664	0.3579
0.42	7.6232	2.1616	0.0505	0.2836	29.6179	0.3587
0.44	7.5885	2.0999	0.0514	0.2767	30.2259	0.3597
0.455	7.5667	2.0574	0.0521	0.2719	30.6773	0.3603
0.475	7.5347	2.003	0.0529	0.2658	31.2569	0.3612

0.495	7.5058	1.9537	0.0538	0.2603	31.8431	0.362
0.52	7.472	1.8952	0.0548	0.2536	32.5374	0.363
0.54	7.4481	1.8513	0.0556	0.2486	33.0676	0.3637
0.565	7.4199	1.8014	0.0566	0.2428	33.7411	0.3645
0.585	7.3985	1.7627	0.0573	0.2382	34.2434	0.3651
0.61	7.3745	1.7176	0.0583	0.2329	34.862	0.3658
0.64	7.3489	1.668	0.0594	0.227	35.593	0.3666
0.665	7.328	1.6308	0.0603	0.2225	36.2191	0.3672
0.695	7.3046	1.5892	0.0614	0.2176	36.9566	0.3679
0.725	7.284	1.5526	0.0626	0.2131	37.7243	0.3685
0.755	7.2572	1.5121	0.0635	0.2084	38.3422	0.3692
0.785	7.2432	1.4814	0.0647	0.2045	39.1006	0.3697
0.82	7.2226	1.4459	0.0659	0.2002	39.9317	0.3703
0.855	7.2028	1.4146	0.0673	0.1964	40.7969	0.3708
0.895	7.1832	1.3841	0.0689	0.1927	41.8492	0.3714
0.93	7.166	1.3596	0.0703	0.1897	42.7718	0.3719
0.97	7.1477	1.3337	0.0719	0.1866	43.8244	0.3724
1.015	7.1251	1.3071	0.0738	0.1835	45.0226	0.3731
1.055	7.1075	1.2855	0.0754	0.1809	46.0836	0.3736
1.1	7.0865	1.2652	0.0774	0.1785	47.3677	0.3742
1.15	7.0555	1.2313	0.0787	0.1745	48.3067	0.3751
1.195	7.0415	1.1989	0.0797	0.1703	48.9334	0.3755
1.25	7.0349	1.1705	0.0814	0.1664	50.0063	0.3757
1.3	7.028	1.1525	0.0833	0.164	51.237	0.376
1.36	7.0157	1.1357	0.0859	0.1619	52.8694	0.3763
1.415	7.0033	1.1225	0.0883	0.1603	54.421	0.3767
1.475	6.9894	1.1106	0.0911	0.1589	56.1838	0.3771
1.54	6.9732	1.0986	0.0941	0.1575	58.0963	0.3775
1.605	6.9574	1.0866	0.097	0.1562	59.9593	0.378
1.675	6.9393	1.0754	0.1002	0.155	62.0141	0.3785
1.745	6.9196	1.064	0.1032	0.1538	64.0102	0.379
1.82	6.9028	1.0488	0.1061	0.1519	65.8966	0.3795
1.9	6.8868	1.0345	0.1093	0.1502	67.9345	0.38
1.98	6.8736	1.0214	0.1125	0.1486	69.9687	0.3804
2.065	6.8617	1.0093	0.1159	0.1471	72.1807	0.3807
2.155	6.8528	0.9988	0.1197	0.1457	74.5884	0.381
2.25	6.8454	0.9934	0.1243	0.1451	77.5048	0.3812
2.345	6.8352	0.9924	0.1294	0.1452	80.75	0.3815
2.445	6.824	0.9894	0.1345	0.145	84.013	0.3818
2.55	6.8155	0.9905	0.1405	0.1453	87.7747	0.382
2.66	6.8059	0.9966	0.1474	0.1464	92.1809	0.3823
2.775	6.7916	1.0068	0.1554	0.1482	97.2491	0.3827
2.89	6.771	1.0176	0.1635	0.1503	102.5137	0.3832
3.015	6.7425	1.0259	0.172	0.1522	108.0367	0.384
3.145	6.7112	1.027	0.1796	0.153	113.0728	0.3849
3.28	6.6809	1.0165	0.1854	0.1521	116.9908	0.3858
3.42	6.6647	0.997	0.1896	0.1496	119.8095	0.3863
3.57	6.6692	0.9912	0.1968	0.1486	124.2915	0.3862
3.72	6.662	1.0061	0.2081	0.151	131.5245	0.3863
3.88	6.6425	1.015	0.219	0.1528	138.5892	0.3869
4.045	6.6269	1.0192	0.2292	0.1538	145.2371	0.3873

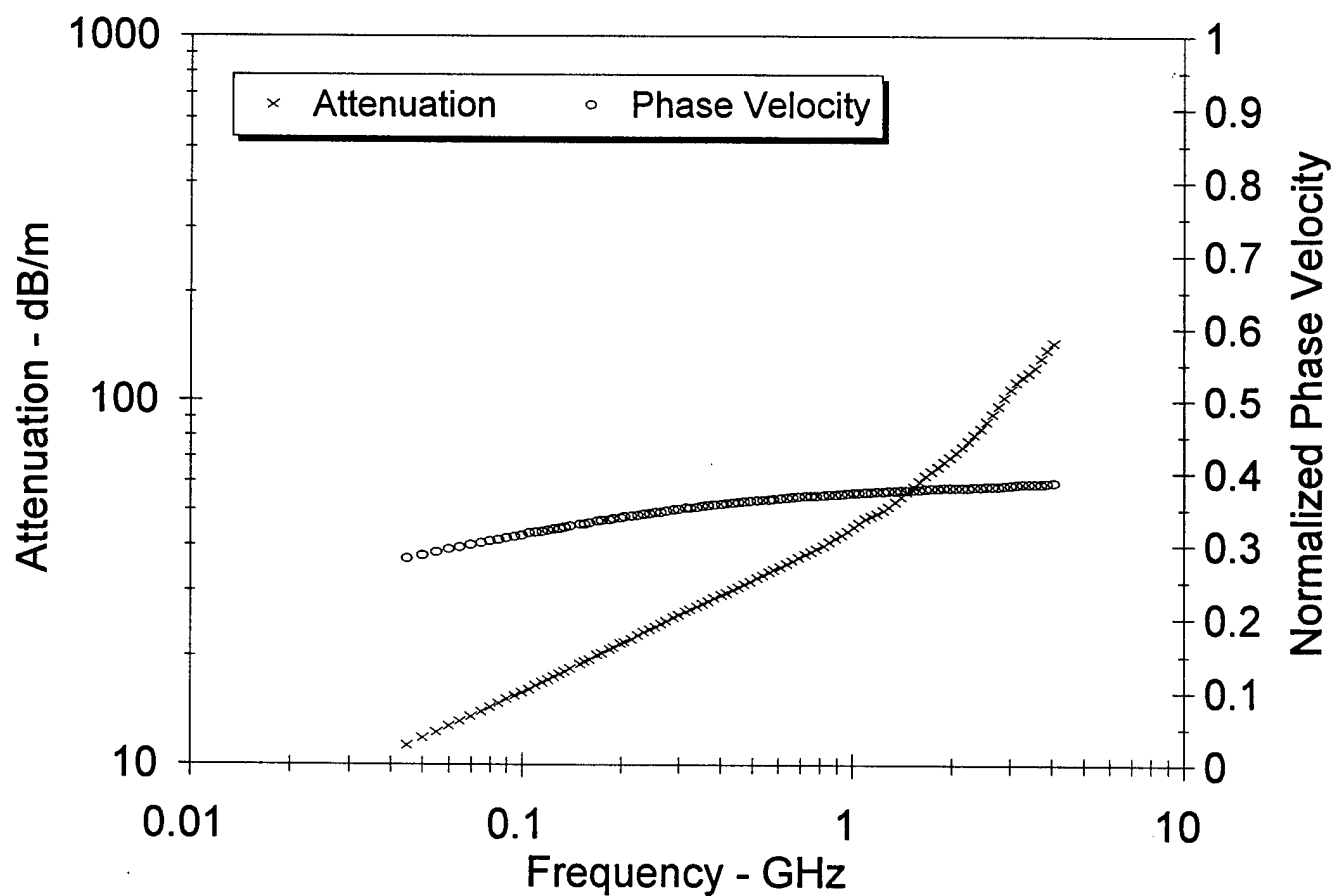
TC77.5E60.5N , File: 5SP61418  
20 deg C, Mv = 17.3%, 1.400 g/cc (dry)



TC77.5E60.5N , File: 5SP61418  
20 deg C, Mv = 17.3%, 1.400 g/cc (dry)



TC77.5E60.5N , File: 5SP61418  
20 deg C, Mv = 17.3%, 1.400 g/cc (dry)



6SP61444  
SB27.5E73N

9.7

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5.1

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1.28

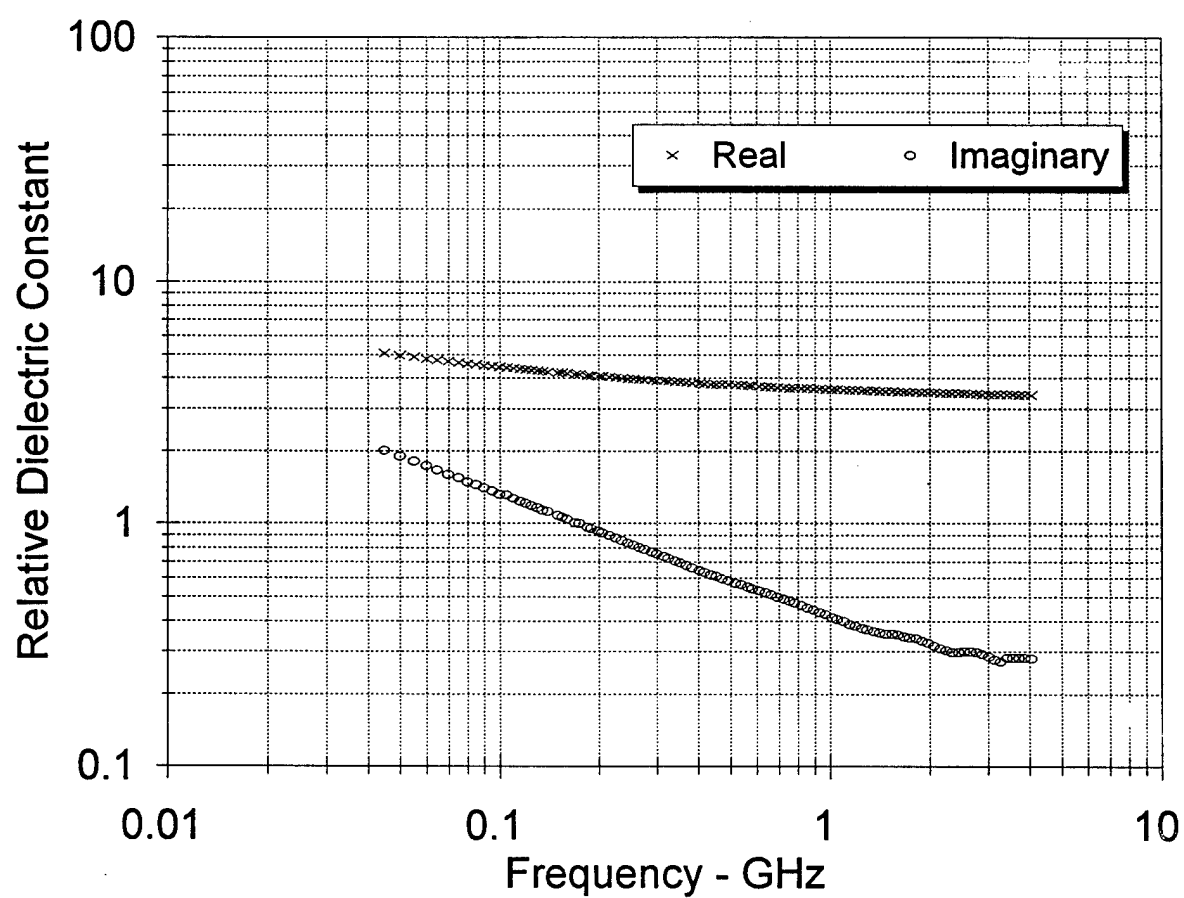
SB27.5E73N , File: 6SP61444

20 deg C, Mv = 5.1%, 1.280 g/cc (dry)

0.045	5.0469	1.9947	0.005	0.3952	3.5677	0.437
0.05	4.9563	1.8934	0.0053	0.382	3.8015	0.4415
0.055	4.8668	1.8016	0.0055	0.3702	4.0193	0.446
0.06	4.7982	1.7229	0.0057	0.3591	4.227	0.4495
0.065	4.7368	1.6601	0.006	0.3505	4.4439	0.4528
0.07	4.6823	1.5924	0.0062	0.3401	4.621	0.4558
0.075	4.6319	1.5405	0.0064	0.3326	4.8185	0.4585
0.08	4.5846	1.4853	0.0066	0.324	4.9843	0.4612
0.085	4.543	1.4442	0.0068	0.3179	5.1751	0.4635
0.09	4.4987	1.3994	0.007	0.3111	5.3385	0.466
0.095	4.4723	1.3627	0.0072	0.3047	5.5059	0.4676
0.1	4.4373	1.3277	0.0074	0.2992	5.6714	0.4696
0.105	4.4228	1.3114	0.0077	0.2965	5.8926	0.4705
0.11	4.3796	1.269	0.0078	0.2897	6.0055	0.473
0.115	4.352	1.2403	0.0079	0.285	6.158	0.4747
0.12	4.326	1.2138	0.0081	0.2806	6.309	0.4762
0.125	4.3037	1.1882	0.0083	0.2761	6.4521	0.4776
0.13	4.2809	1.1635	0.0084	0.2718	6.5902	0.479
0.135	4.261	1.1419	0.0086	0.268	6.7339	0.4802
0.14	4.2413	1.1205	0.0087	0.2642	6.8695	0.4815
0.15	4.2047	1.0823	0.009	0.2574	7.1431	0.4838
0.155	4.1871	1.0641	0.0092	0.2541	7.2738	0.4849
0.16	4.1703	1.0466	0.0093	0.251	7.4017	0.4859
0.17	4.1396	1.0138	0.0096	0.2449	7.6482	0.4879
0.175	4.1245	0.9986	0.0097	0.2421	7.7707	0.4889
0.185	4.0972	0.969	0.01	0.2365	8.0006	0.4907
0.19	4.0841	0.9543	0.0101	0.2337	8.1063	0.4915
0.2	4.0589	0.9286	0.0103	0.2288	8.3317	0.4932
0.205	4.0481	0.915	0.0104	0.226	8.4273	0.4939
0.215	4.0267	0.8935	0.0107	0.2219	8.6547	0.4953
0.225	4.008	0.8723	0.0109	0.2176	8.8655	0.4966
0.235	3.988	0.8529	0.0111	0.2139	9.0782	0.4979
0.245	3.9724	0.8333	0.0114	0.2098	9.2666	0.499
0.255	3.9541	0.8178	0.0116	0.2068	9.4886	0.5003
0.265	3.9385	0.8012	0.0118	0.2034	9.6817	0.5013
0.275	3.9241	0.7852	0.012	0.2001	9.866	0.5023
0.29	3.9027	0.7637	0.0123	0.1957	10.1496	0.5038
0.3	3.8901	0.7507	0.0125	0.193	10.3391	0.5047
0.315	3.8734	0.7318	0.0128	0.1889	10.6074	0.5059
0.325	3.8623	0.7198	0.013	0.1864	10.7812	0.5067
0.34	3.8471	0.7033	0.0133	0.1828	11.0435	0.5077
0.355	3.8373	0.6921	0.0137	0.1804	11.3625	0.5084
0.37	3.8196	0.6742	0.0139	0.1765	11.566	0.5097
0.385	3.8076	0.6614	0.0142	0.1737	11.8263	0.5106
0.405	3.7938	0.6444	0.0145	0.1699	12.1437	0.5116
0.42	3.7835	0.6337	0.0148	0.1675	12.4037	0.5123
0.44	3.7705	0.6188	0.0151	0.1641	12.7115	0.5133
0.455	3.7619	0.6089	0.0154	0.1619	12.95	0.5139
0.475	3.7502	0.5969	0.0158	0.1592	13.2761	0.5148

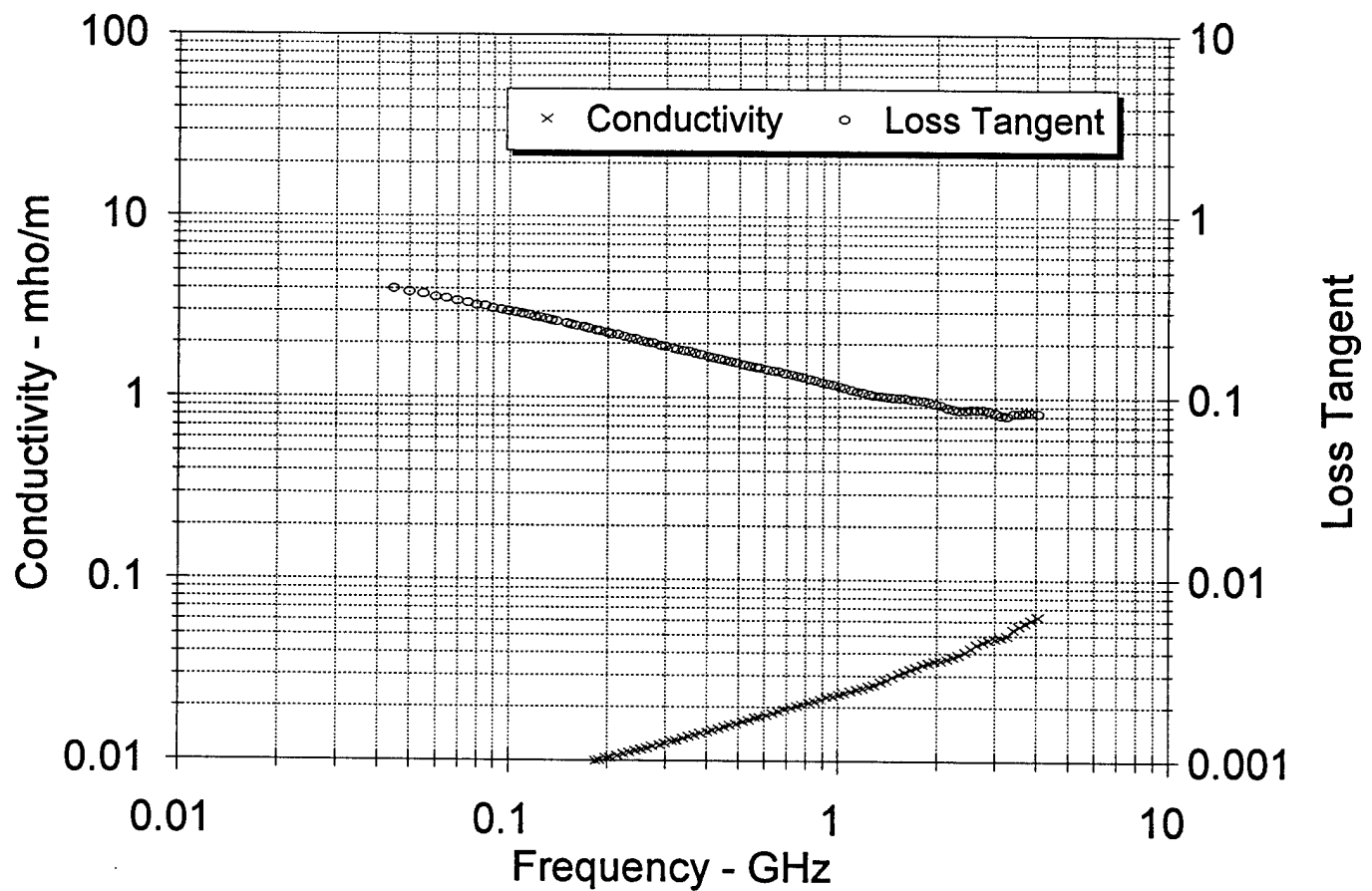
0.495	3.7394	0.5853	0.0161	0.1565	13.5872	0.5156
0.52	3.7263	0.5716	0.0165	0.1534	13.9638	0.5165
0.54	3.7169	0.5621	0.0169	0.1512	14.2797	0.5172
0.565	3.7053	0.5507	0.0173	0.1486	14.663	0.5181
0.585	3.6964	0.5423	0.0176	0.1467	14.9682	0.5187
0.61	3.6861	0.5318	0.018	0.1443	15.3291	0.5195
0.64	3.6739	0.5198	0.0185	0.1415	15.747	0.5204
0.665	3.6657	0.5113	0.0189	0.1395	16.1144	0.521
0.695	3.6562	0.5007	0.0193	0.1369	16.5144	0.5218
0.725	3.6466	0.4917	0.0198	0.1349	16.9433	0.5225
0.755	3.6374	0.4804	0.0202	0.1321	17.2604	0.5232
0.785	3.6273	0.4728	0.0206	0.1303	17.688	0.524
0.82	3.6172	0.4617	0.0211	0.1276	18.0707	0.5247
0.855	3.6086	0.4524	0.0215	0.1254	18.484	0.5254
0.895	3.5993	0.4423	0.022	0.1229	18.9434	0.5261
0.93	3.5913	0.4344	0.0225	0.121	19.3547	0.5267
0.97	3.5814	0.425	0.0229	0.1187	19.7783	0.5275
1.015	3.5728	0.4146	0.0234	0.116	20.2174	0.5282
1.055	3.5663	0.4058	0.0238	0.1138	20.589	0.5287
1.1	3.5599	0.397	0.0243	0.1115	21.0196	0.5292
1.15	3.5527	0.3878	0.0248	0.1092	21.492	0.5298
1.195	3.5469	0.3808	0.0253	0.1074	21.946	0.5302
1.25	3.5404	0.373	0.0259	0.1054	22.508	0.5307
1.3	3.5357	0.3668	0.0265	0.1037	23.0343	0.5311
1.36	3.5306	0.3614	0.0273	0.1024	23.7626	0.5315
1.415	3.5259	0.3577	0.0281	0.1014	24.4856	0.5319
1.475	3.52	0.3549	0.0291	0.1008	25.3479	0.5323
1.54	3.5133	0.3533	0.0303	0.1006	26.3731	0.5328
1.605	3.5041	0.351	0.0313	0.1002	27.3408	0.5335
1.675	3.4952	0.3451	0.0321	0.0987	28.0902	0.5342
1.745	3.4882	0.3414	0.0331	0.0979	28.9788	0.5348
1.82	3.4795	0.3376	0.0342	0.097	29.9217	0.5355
1.9	3.4695	0.3316	0.035	0.0956	30.7279	0.5363
1.98	3.4612	0.324	0.0357	0.0936	31.3258	0.5369
2.065	3.4552	0.3157	0.0362	0.0914	31.8646	0.5374
2.155	3.451	0.3073	0.0368	0.0891	32.3948	0.5378
2.25	3.4499	0.3009	0.0376	0.0872	33.1243	0.5379
2.345	3.4491	0.2971	0.0387	0.0861	34.086	0.538
2.445	3.4483	0.2968	0.0404	0.0861	35.5134	0.538
2.55	3.4431	0.2987	0.0423	0.0867	37.2975	0.5384
2.66	3.4352	0.299	0.0442	0.087	38.9943	0.539
2.775	3.4261	0.2967	0.0458	0.0866	40.4256	0.5398
2.89	3.417	0.2919	0.0469	0.0854	41.4727	0.5405
3.015	3.4102	0.2846	0.0477	0.0834	42.2215	0.541
3.145	3.408	0.2759	0.0483	0.081	42.7252	0.5412
3.28	3.4138	0.2718	0.0496	0.0796	43.8479	0.5408
3.42	3.4122	0.2813	0.0535	0.0824	47.3317	0.5409
3.57	3.404	0.282	0.056	0.0829	49.5976	0.5415
3.72	3.3978	0.282	0.0583	0.083	51.7253	0.542
3.88	3.3909	0.2815	0.0607	0.083	53.9111	0.5426
4.045	3.3862	0.2799	0.063	0.0826	55.9103	0.543

SB27.5E73N , File: 6SP61444  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)

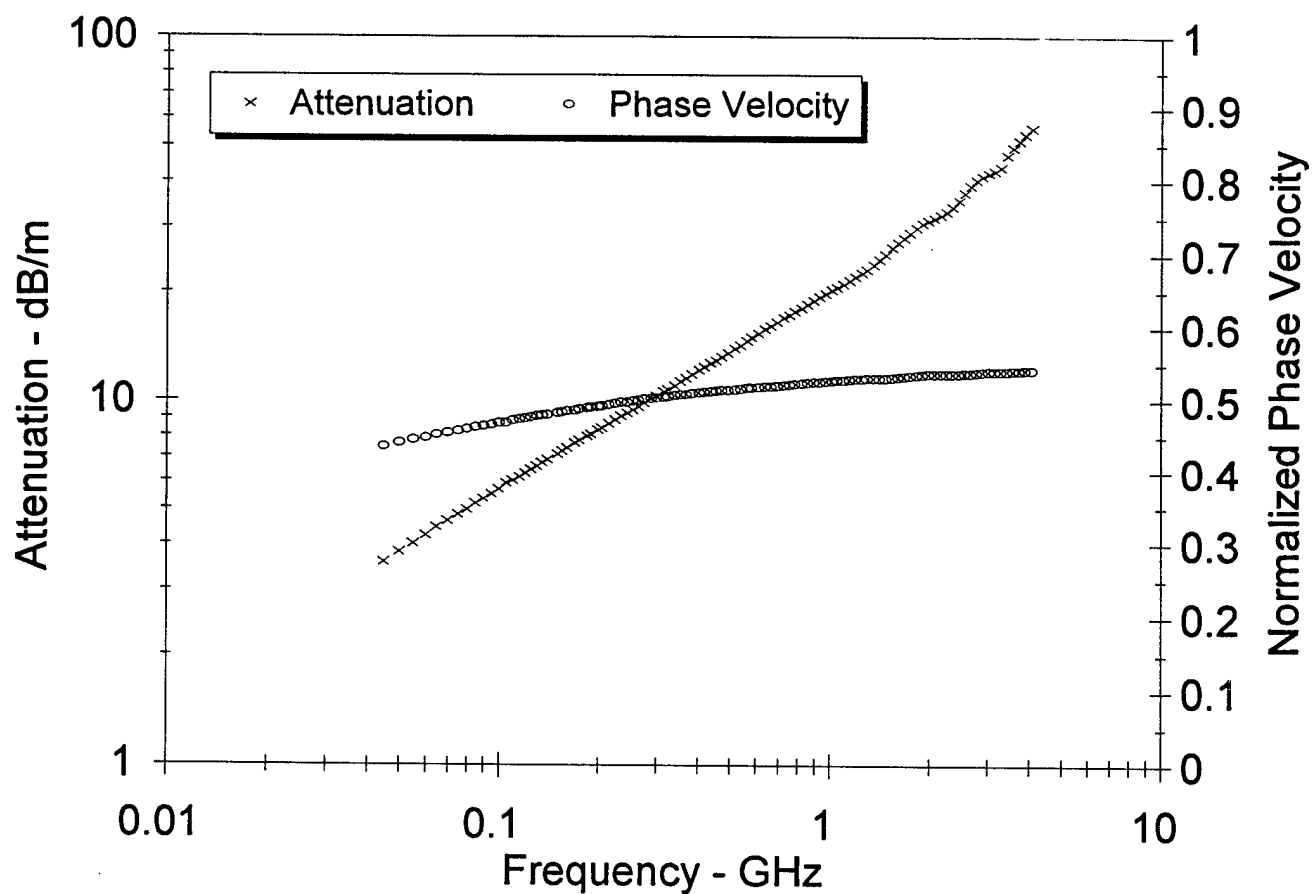




SB27.5E73N , File: 6SP61444  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)



SB27.5E73N , File: 6SP61444  
20 deg C, Mv = 5.1%, 1.280 g/cc (dry)



6SP61453  
TC27.5E73N

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20

1.32

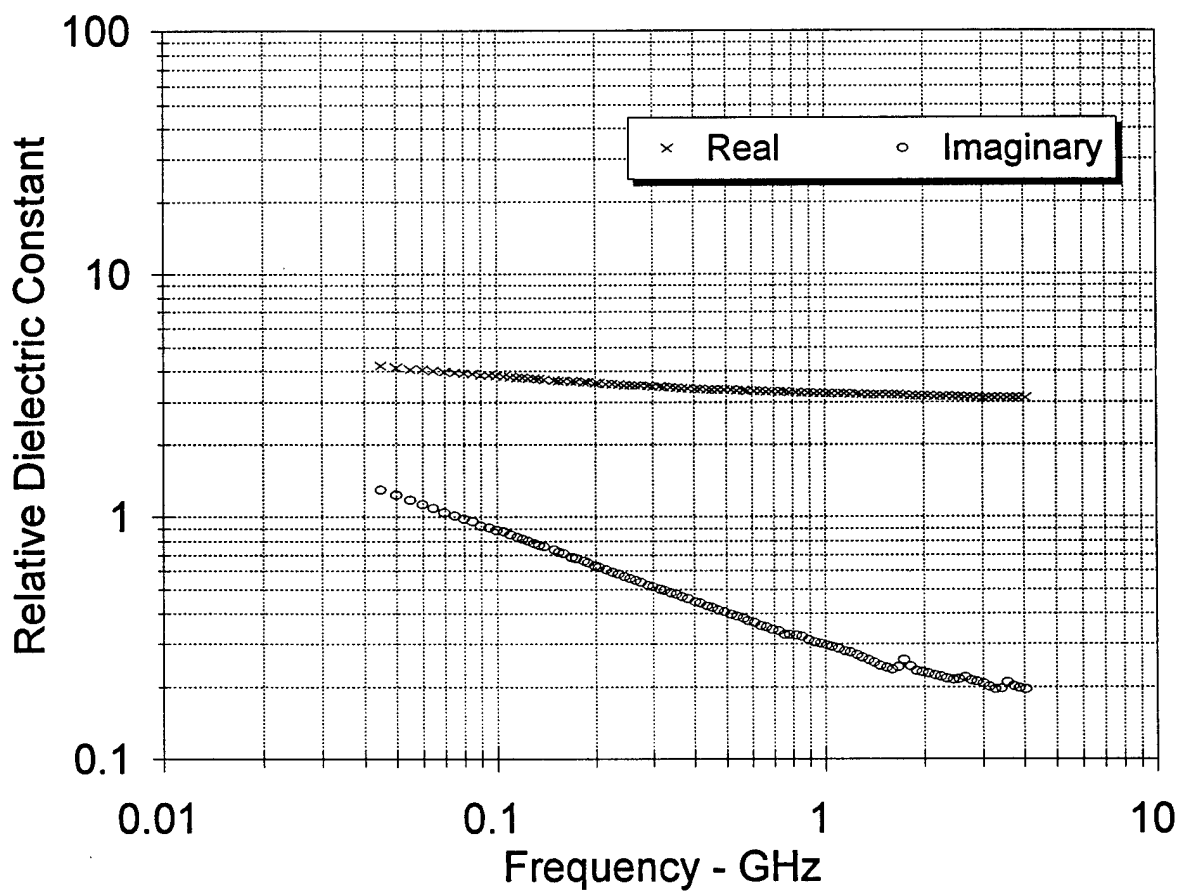
TC27.5E73N , File: 6SP61453

20 deg C, Mv = 4.0%, 1.320 g/cc (dry)

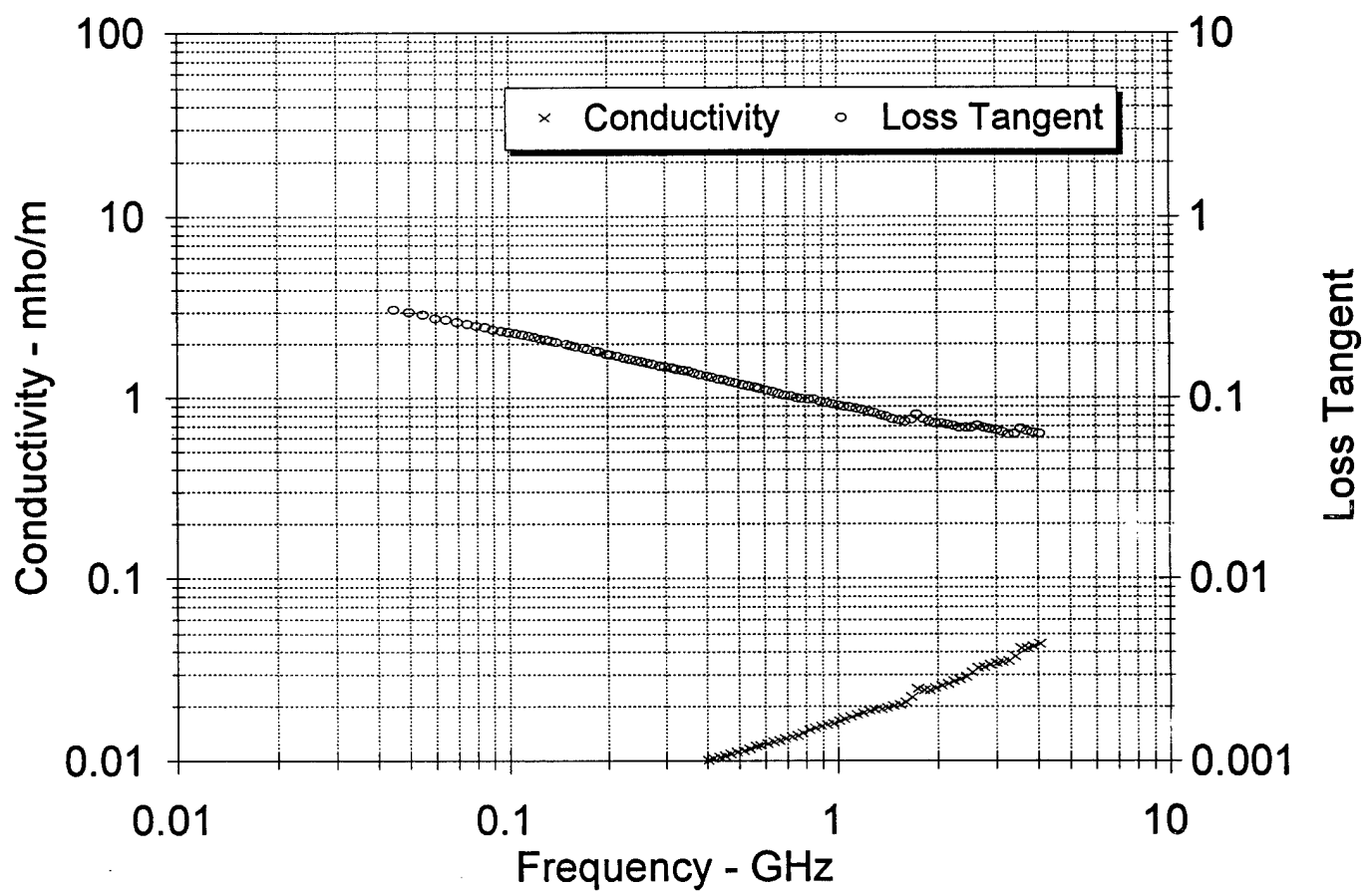
0.045	4.188	1.2972	0.0032	0.3097	2.5646	0.483
0.05	4.1322	1.2353	0.0034	0.2989	2.734	0.4866
0.055	4.0754	1.18	0.0036	0.2895	2.8946	0.4903
0.06	4.0444	1.1259	0.0038	0.2784	3.0268	0.4926
0.065	4.0006	1.0899	0.0039	0.2724	3.1927	0.4955
0.07	3.9685	1.0474	0.0041	0.2639	3.3194	0.4977
0.075	3.9347	1.0154	0.0042	0.2581	3.4638	0.5001
0.08	3.9142	0.9852	0.0044	0.2517	3.5955	0.5016
0.085	3.8809	0.9577	0.0045	0.2468	3.7307	0.5038
0.09	3.8426	0.9231	0.0046	0.2402	3.8278	0.5065
0.095	3.8395	0.9069	0.0048	0.2362	3.9722	0.5069
0.1	3.8169	0.8848	0.0049	0.2318	4.0924	0.5085
0.105	3.8067	0.8729	0.0051	0.2293	4.2456	0.5092
0.11	3.7791	0.8483	0.0052	0.2245	4.339	0.5112
0.115	3.7618	0.8301	0.0053	0.2207	4.4504	0.5125
0.12	3.7465	0.8137	0.0054	0.2172	4.5621	0.5137
0.125	3.7313	0.7987	0.0056	0.214	4.6745	0.5148
0.13	3.7157	0.7817	0.0057	0.2104	4.7691	0.516
0.135	3.7038	0.7685	0.0058	0.2075	4.8772	0.5169
0.14	3.6896	0.7548	0.0059	0.2046	4.9779	0.5179
0.15	3.6659	0.7314	0.0061	0.1995	5.1863	0.5197
0.155	3.6535	0.718	0.0062	0.1965	5.2711	0.5207
0.16	3.6423	0.7069	0.0063	0.1941	5.3655	0.5216
0.17	3.6217	0.6863	0.0065	0.1895	5.5515	0.5231
0.175	3.6102	0.6744	0.0066	0.1868	5.6252	0.524
0.185	3.5924	0.6561	0.0067	0.1826	5.8008	0.5254
0.19	3.5835	0.646	0.0068	0.1803	5.8743	0.5261
0.2	3.5629	0.6277	0.007	0.1762	6.0266	0.5278
0.205	3.5595	0.6196	0.0071	0.1741	6.1013	0.5281
0.215	3.545	0.6055	0.0072	0.1708	6.2668	0.5292
0.225	3.5321	0.5909	0.0074	0.1673	6.4125	0.5302
0.235	3.5188	0.5794	0.0076	0.1647	6.5799	0.5313
0.245	3.5076	0.5677	0.0077	0.1619	6.7334	0.5322
0.255	3.4956	0.5578	0.0079	0.1596	6.8984	0.5332
0.265	3.4838	0.5476	0.0081	0.1572	7.0503	0.5341
0.275	3.4738	0.5368	0.0082	0.1545	7.1833	0.5349
0.29	3.4582	0.5239	0.0084	0.1515	7.4099	0.5362
0.3	3.4497	0.5159	0.0086	0.1496	7.5588	0.5369
0.315	3.437	0.5043	0.0088	0.1467	7.7726	0.538
0.325	3.4304	0.4974	0.009	0.145	7.919	0.5385
0.34	3.4186	0.4869	0.0092	0.1424	8.123	0.5395
0.355	3.4113	0.4799	0.0095	0.1407	8.369	0.5401
0.37	3.3987	0.468	0.0096	0.1377	8.523	0.5412
0.385	3.3899	0.4596	0.0098	0.1356	8.7224	0.5419
0.405	3.3792	0.4477	0.0101	0.1325	8.9514	0.5428
0.42	3.3727	0.4396	0.0103	0.1304	9.1262	0.5434
0.44	3.3639	0.4292	0.0105	0.1276	9.3465	0.5441
0.455	3.3574	0.4225	0.0107	0.1258	9.5233	0.5447
0.475	3.3494	0.4138	0.0109	0.1235	9.7495	0.5454

0.495	3.3417	0.4059	0.0112	0.1215	9.9794	0.546
0.52	3.3331	0.3959	0.0114	0.1188	10.2398	0.5468
0.54	3.3258	0.3887	0.0117	0.1169	10.4506	0.5474
0.565	3.3179	0.3804	0.012	0.1146	10.7141	0.5481
0.585	3.3118	0.3739	0.0122	0.1129	10.9166	0.5486
0.61	3.3051	0.366	0.0124	0.1107	11.1543	0.5492
0.64	3.2973	0.3561	0.0127	0.108	11.3982	0.5499
0.665	3.294	0.3504	0.013	0.1064	11.6615	0.5502
0.695	3.2888	0.3428	0.0132	0.1042	11.9329	0.5507
0.725	3.2847	0.3372	0.0136	0.1026	12.2521	0.551
0.755	3.2826	0.3285	0.0138	0.1001	12.4365	0.5513
0.785	3.2743	0.3272	0.0143	0.0999	12.8965	0.5519
0.82	3.2673	0.3235	0.0148	0.099	13.334	0.5526
0.855	3.2577	0.3205	0.0152	0.0984	13.7923	0.5534
0.895	3.2486	0.3114	0.0155	0.0958	14.0467	0.5542
0.93	3.2441	0.3052	0.0158	0.0941	14.3171	0.5546
0.97	3.2371	0.2993	0.0161	0.0925	14.6633	0.5552
1.015	3.2316	0.2949	0.0166	0.0912	15.1285	0.5557
1.055	3.226	0.2903	0.017	0.09	15.4946	0.5562
1.1	3.2204	0.2858	0.0175	0.0888	15.9196	0.5567
1.15	3.2132	0.2807	0.0179	0.0874	16.3635	0.5573
1.195	3.2066	0.2764	0.0184	0.0862	16.7591	0.5579
1.25	3.1988	0.2699	0.0188	0.0844	17.1426	0.5586
1.3	3.1932	0.2637	0.0191	0.0826	17.4372	0.5591
1.36	3.1881	0.257	0.0194	0.0806	17.7926	0.5596
1.415	3.1843	0.2509	0.0197	0.0788	18.0843	0.56
1.475	3.1815	0.2443	0.02	0.0768	18.3632	0.5602
1.54	3.1807	0.2388	0.0204	0.0751	18.7406	0.5603
1.605	3.1829	0.2351	0.021	0.0739	19.2259	0.5601
1.675	3.1886	0.2401	0.0224	0.0753	20.468	0.5596
1.745	3.172	0.2562	0.0249	0.0808	22.8122	0.561
1.82	3.1543	0.2419	0.0245	0.0767	22.5279	0.5626
1.9	3.1525	0.2326	0.0246	0.0738	22.6222	0.5628
1.98	3.1503	0.2288	0.0252	0.0726	23.1973	0.563
2.065	3.1471	0.2263	0.026	0.0719	23.9419	0.5633
2.155	3.1429	0.2229	0.0267	0.0709	24.634	0.5637
2.25	3.1394	0.2194	0.0274	0.0699	25.3235	0.564
2.345	3.1366	0.2157	0.0281	0.0688	25.9595	0.5643
2.445	3.1354	0.2134	0.029	0.068	26.7804	0.5644
2.55	3.1348	0.2154	0.0305	0.0687	28.204	0.5645
2.66	3.1231	0.2188	0.0324	0.07	29.9329	0.5655
2.775	3.1174	0.212	0.0327	0.068	30.2941	0.5661
2.89	3.1133	0.2091	0.0336	0.0672	31.1383	0.5664
3.015	3.1084	0.2058	0.0345	0.0662	31.9875	0.5669
3.145	3.1046	0.2004	0.035	0.0646	32.5219	0.5672
3.28	3.1048	0.1947	0.0355	0.0627	32.9436	0.5672
3.42	3.1116	0.1962	0.0373	0.0631	34.5874	0.5666
3.57	3.0999	0.2085	0.0414	0.0672	38.4251	0.5676
3.72	3.0916	0.2013	0.0416	0.0651	38.715	0.5684
3.88	3.0879	0.1979	0.0427	0.0641	39.7323	0.5688
4.045	3.0845	0.1948	0.0438	0.0632	40.7899	0.5691

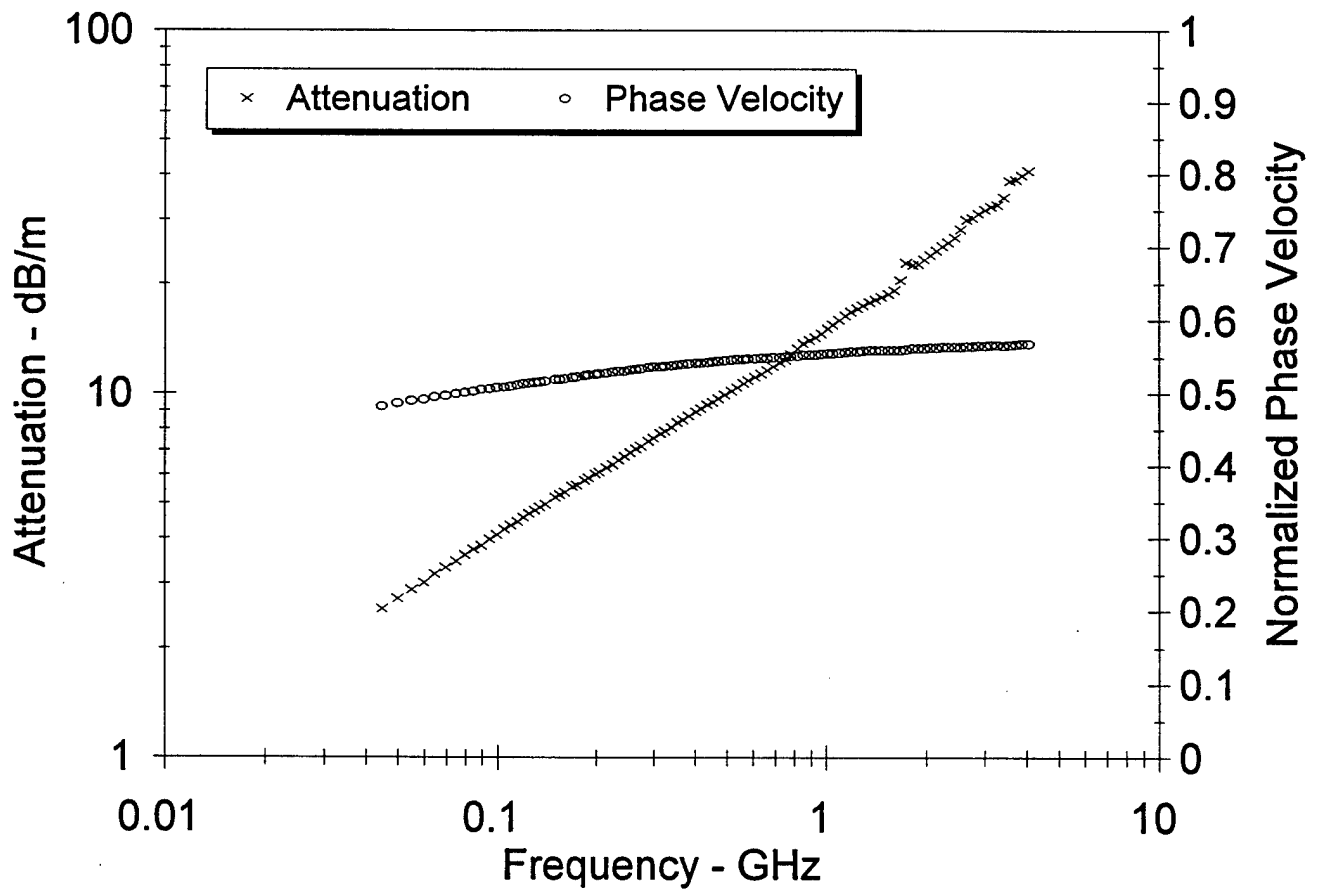
TC27.5E73N , File: 6SP61453  
20 deg C, Mv = 4.0%, 1.320 g/cc (dry)



TC27.5E73N , File: 6SP61453  
20 deg C, Mv = 4.0%, 1.320 g/cc (dry)



TC27.5E73N , File: 6SP61453  
20 deg C, Mv = 4.0%, 1.320 g/cc (dry)



6SP61502  
SB77.5E60.5N

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SB77.5E60.5N , File: 6SP61502

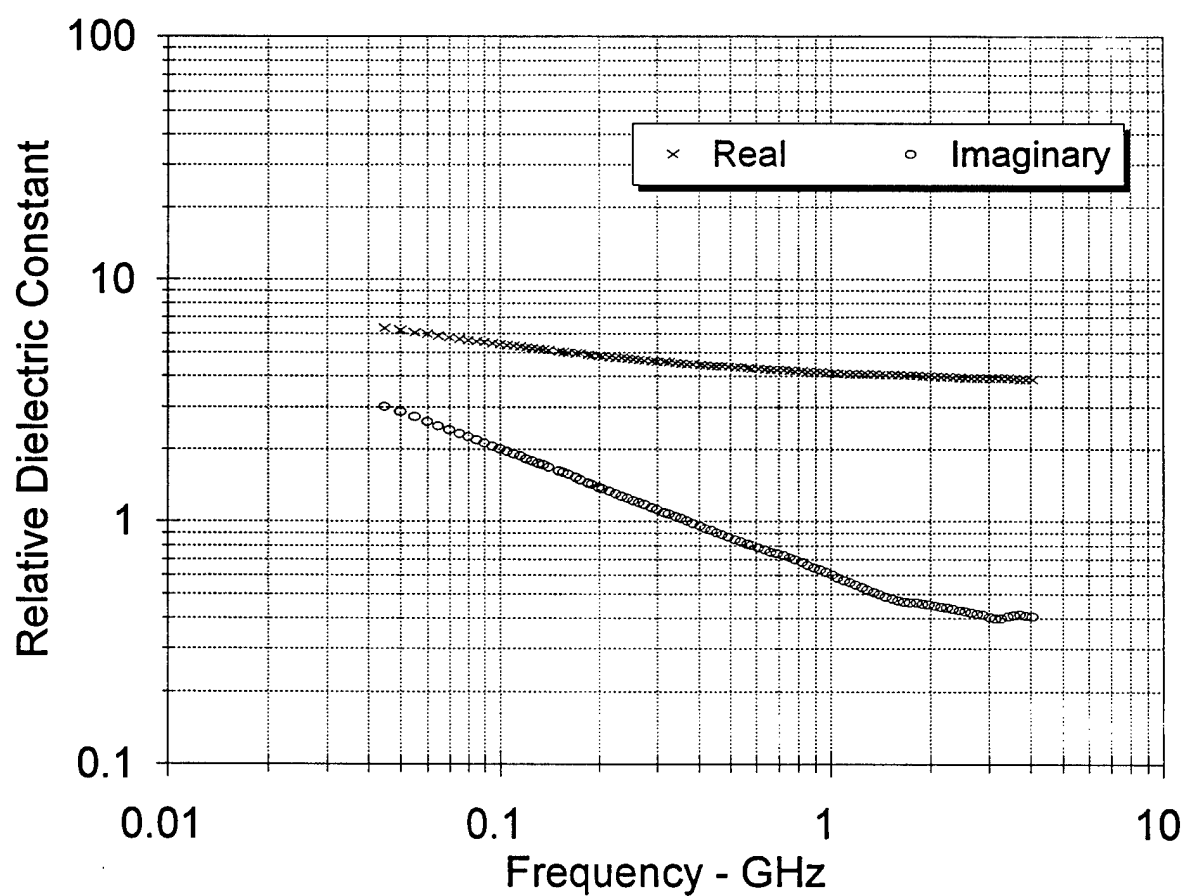
20 deg C, Mv = 7.8%, 1.330 g/cc (dry)

0.045	6.2978	2.9992	0.0075	0.4762	4.7653	0.3882
0.05	6.1621	2.8441	0.0079	0.4615	5.0834	0.393
0.055	6.0323	2.7089	0.0083	0.4491	5.3896	0.3977
0.06	5.9365	2.592	0.0086	0.4366	5.6778	0.4014
0.065	5.8379	2.4884	0.009	0.4262	5.9606	0.4052
0.07	5.7562	2.3947	0.0093	0.416	6.2271	0.4084
0.075	5.6804	2.3135	0.0096	0.4073	6.4938	0.4115
0.08	5.6151	2.2398	0.01	0.3989	6.7499	0.4142
0.085	5.5483	2.1705	0.0103	0.3912	6.9963	0.4169
0.09	5.4968	2.1096	0.0106	0.3838	7.2384	0.4191
0.095	5.4383	2.0493	0.0108	0.3768	7.4664	0.4216
0.1	5.3843	1.9939	0.0111	0.3703	7.6894	0.424
0.105	5.3519	1.9553	0.0114	0.3653	7.9448	0.4254
0.11	5.3032	1.9067	0.0117	0.3595	8.1573	0.4276
0.115	5.2633	1.8635	0.0119	0.3541	8.3704	0.4294
0.12	5.229	1.8218	0.0122	0.3484	8.5706	0.431
0.125	5.1907	1.7851	0.0124	0.3439	8.7829	0.4327
0.13	5.1564	1.7481	0.0126	0.339	8.9781	0.4344
0.135	5.1261	1.7151	0.0129	0.3346	9.1779	0.4358
0.14	5.0959	1.6804	0.0131	0.3298	9.3564	0.4372
0.15	5.0404	1.6245	0.0135	0.3223	9.7496	0.4399
0.155	5.014	1.5954	0.0138	0.3182	9.9232	0.4412
0.16	4.9901	1.5696	0.014	0.3145	10.1046	0.4423
0.17	4.945	1.5204	0.0144	0.3075	10.452	0.4446
0.175	4.9222	1.4956	0.0146	0.3039	10.6115	0.4457
0.185	4.8822	1.4507	0.0149	0.2971	10.9304	0.4478
0.19	4.8633	1.431	0.0151	0.2942	11.0971	0.4487
0.2	4.8301	1.3914	0.0155	0.2881	11.4016	0.4505
0.205	4.8119	1.3709	0.0156	0.2849	11.539	0.4514
0.215	4.781	1.3379	0.016	0.2798	11.8522	0.453
0.225	4.752	1.3049	0.0163	0.2746	12.1393	0.4545
0.235	4.7247	1.2777	0.0167	0.2704	12.4531	0.456
0.245	4.7003	1.2486	0.017	0.2656	12.7246	0.4573
0.255	4.6749	1.2238	0.0174	0.2618	13.0187	0.4587
0.265	4.6519	1.199	0.0177	0.2578	13.2919	0.4599
0.275	4.6302	1.1763	0.018	0.2541	13.5671	0.4611
0.29	4.6001	1.144	0.0184	0.2487	13.9635	0.4627
0.3	4.5809	1.1236	0.0187	0.2453	14.2199	0.4638
0.315	4.5561	1.0952	0.0192	0.2404	14.5975	0.4652
0.325	4.5392	1.0768	0.0195	0.2372	14.838	0.4661
0.34	4.5171	1.0518	0.0199	0.2328	15.2027	0.4674
0.355	4.4983	1.0312	0.0204	0.2292	15.5992	0.4685
0.37	4.4771	1.008	0.0207	0.2251	15.9333	0.4697
0.385	4.4592	0.9877	0.0211	0.2215	16.2817	0.4707
0.405	4.4366	0.9602	0.0216	0.2164	16.697	0.472
0.42	4.4223	0.9426	0.022	0.2132	17.0285	0.4729
0.44	4.4024	0.9201	0.0225	0.209	17.4569	0.474
0.455	4.3888	0.9039	0.0229	0.2059	17.763	0.4749
0.475	4.3714	0.8848	0.0234	0.2024	18.1916	0.4759

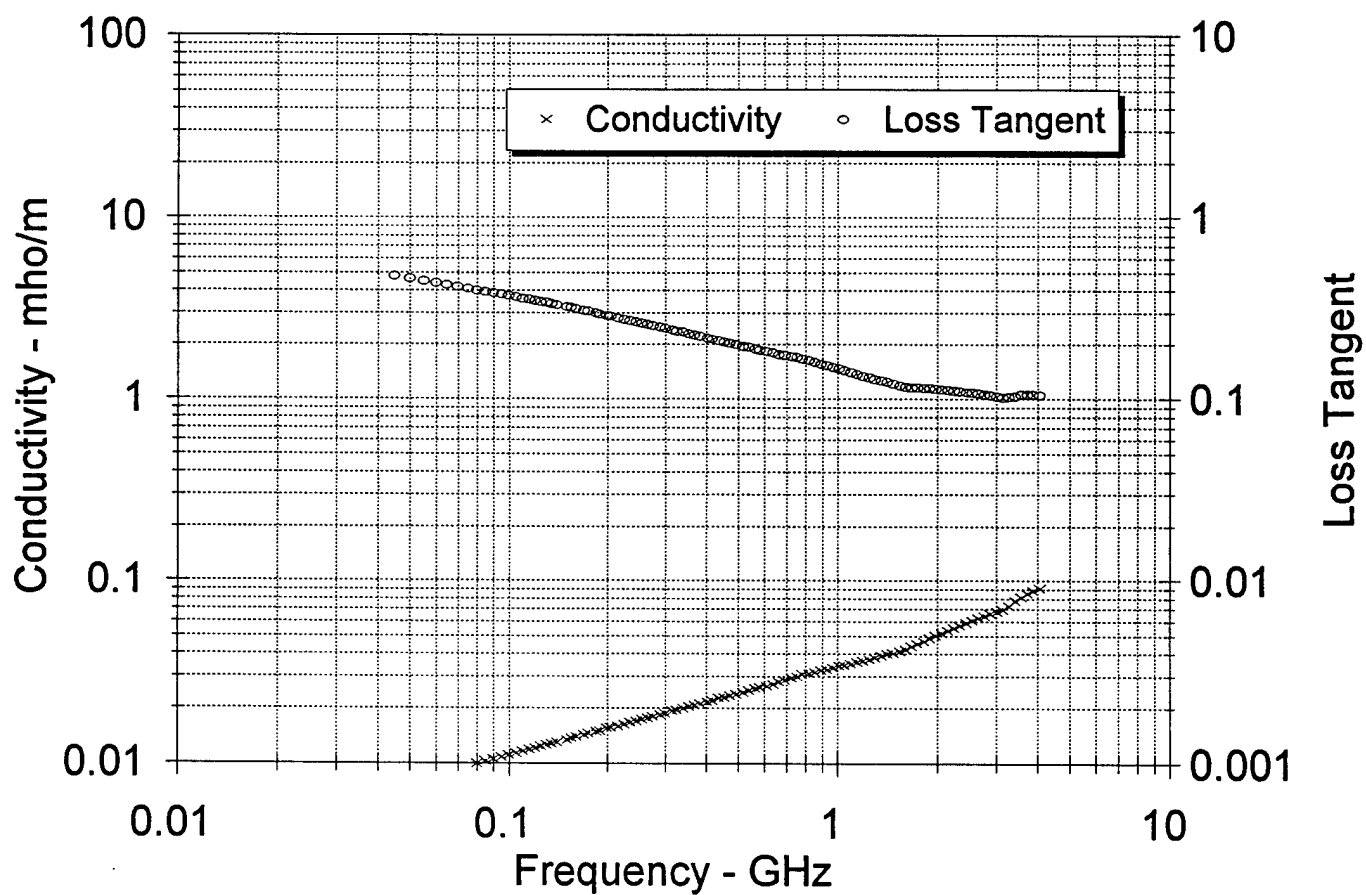


0.495	4.3551	0.8664	0.0238	0.1989	18.6019	0.4768
0.52	4.3356	0.8448	0.0244	0.1949	19.1008	0.478
0.54	4.3215	0.8296	0.0249	0.192	19.513	0.4789
0.565	4.3041	0.8109	0.0255	0.1884	19.9994	0.4799
0.585	4.2916	0.7969	0.0259	0.1857	20.3829	0.4807
0.61	4.2766	0.7806	0.0265	0.1825	20.8567	0.4816
0.64	4.261	0.7625	0.0271	0.179	21.4188	0.4825
0.665	4.2486	0.7494	0.0277	0.1764	21.9073	0.4833
0.695	4.2345	0.735	0.0284	0.1736	22.4951	0.4842
0.725	4.219	0.7238	0.0292	0.1716	23.1537	0.4851
0.755	4.199	0.7108	0.0298	0.1693	23.7377	0.4863
0.785	4.1836	0.6976	0.0305	0.1668	24.2694	0.4872
0.82	4.166	0.6787	0.0309	0.1629	24.7199	0.4883
0.855	4.1522	0.6618	0.0315	0.1594	25.1785	0.4892
0.895	4.1388	0.6445	0.0321	0.1557	25.7122	0.4901
0.93	4.1278	0.6312	0.0326	0.1529	26.2032	0.4908
0.97	4.1151	0.6166	0.0333	0.1498	26.7442	0.4916
1.015	4.1017	0.6005	0.0339	0.1464	27.3032	0.4925
1.055	4.0915	0.5865	0.0344	0.1434	27.7547	0.4931
1.1	4.0812	0.5724	0.035	0.1402	28.2785	0.4938
1.15	4.0716	0.5586	0.0357	0.1372	28.8894	0.4944
1.195	4.0629	0.547	0.0363	0.1346	29.4283	0.495
1.25	4.0532	0.533	0.037	0.1315	30.0349	0.4956
1.3	4.0462	0.5216	0.0377	0.1289	30.597	0.4961
1.36	4.0383	0.5101	0.0386	0.1263	31.3409	0.4966
1.415	4.0317	0.5003	0.0394	0.1241	32.0054	0.4971
1.475	4.0239	0.49	0.0402	0.1218	32.7106	0.4976
1.54	4.0189	0.4778	0.0409	0.1189	33.3242	0.4979
1.605	4.0184	0.4704	0.042	0.117	34.196	0.498
1.675	4.0143	0.4674	0.0435	0.1164	35.4853	0.4983
1.745	4.007	0.4647	0.0451	0.116	36.7817	0.4987
1.82	3.9993	0.4617	0.0467	0.1154	38.1551	0.4992
1.9	3.9904	0.4575	0.0483	0.1146	39.513	0.4998
1.98	3.9818	0.4534	0.0499	0.1139	40.8518	0.5003
2.065	3.973	0.4491	0.0516	0.113	42.2519	0.5009
2.155	3.9639	0.4439	0.0532	0.112	43.6316	0.5015
2.25	3.9565	0.4395	0.055	0.1111	45.149	0.502
2.345	3.9468	0.4354	0.0568	0.1103	46.6725	0.5026
2.445	3.9383	0.43	0.0585	0.1092	48.1137	0.5032
2.55	3.9302	0.4253	0.0603	0.1082	49.6906	0.5037
2.66	3.9221	0.4209	0.0623	0.1073	51.3455	0.5042
2.775	3.9139	0.4164	0.0642	0.1064	53.0479	0.5048
2.89	3.9057	0.4113	0.0661	0.1053	54.6346	0.5053
3.015	3.8986	0.404	0.0677	0.1036	56.0311	0.5058
3.145	3.8985	0.3961	0.0693	0.1016	57.3149	0.5058
3.28	3.9002	0.3996	0.0729	0.1024	60.2836	0.5057
3.42	3.8942	0.4059	0.0772	0.1042	63.9039	0.5061
3.57	3.8836	0.4105	0.0815	0.1057	67.5445	0.5067
3.72	3.8709	0.4111	0.085	0.1062	70.5943	0.5076
3.88	3.8605	0.4084	0.0881	0.1058	73.2519	0.5082
4.045	3.8537	0.4063	0.0914	0.1054	76.0504	0.5087

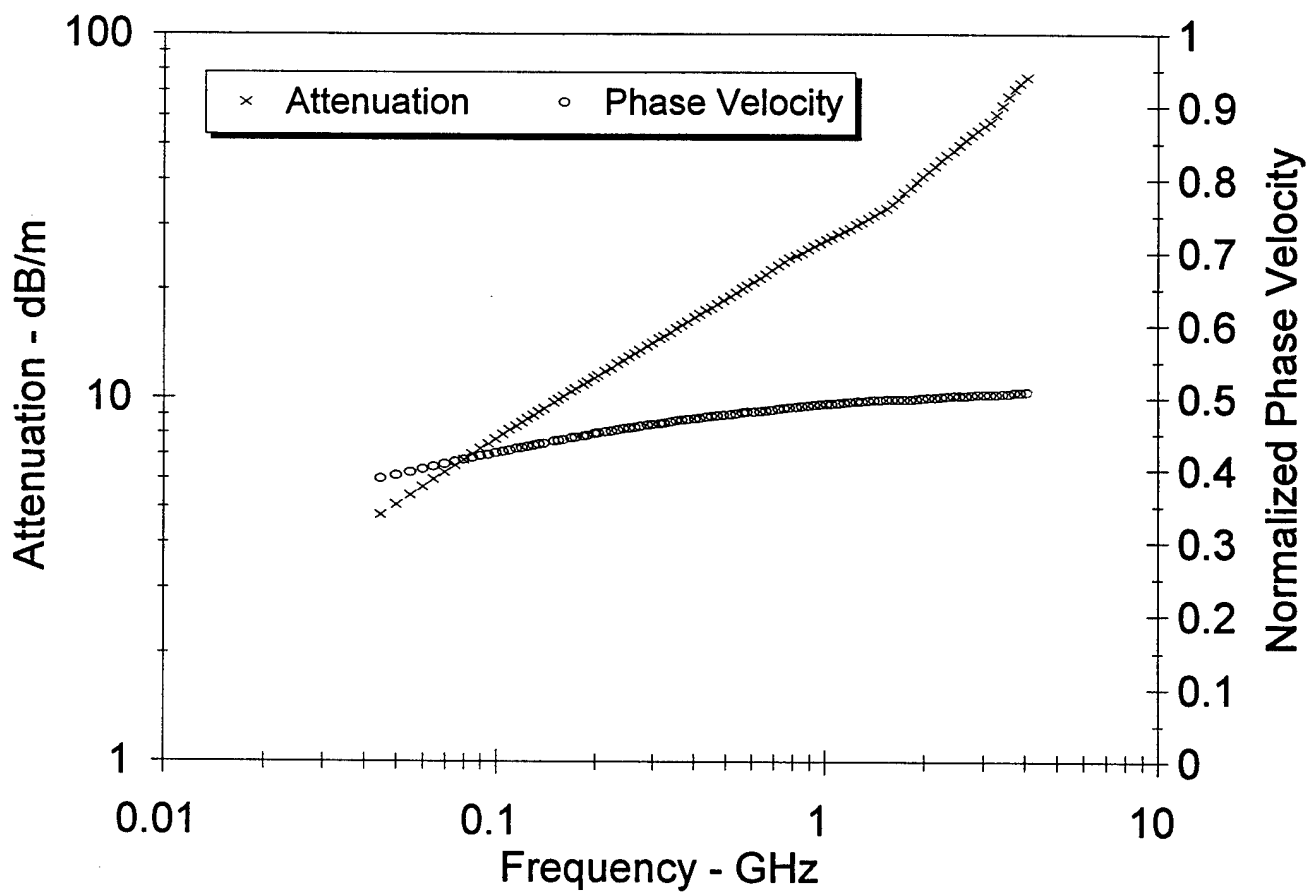
SB77.5E60.5N , File: 6SP61502  
20 deg C, Mv = 7.8%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 6SP61502  
20 deg C, Mv = 7.8%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 6SP61502  
20 deg C, Mv = 7.8%, 1.330 g/cc (dry)



6SP61512  
TC40E23N

4.9

1

5.6

20

1.36

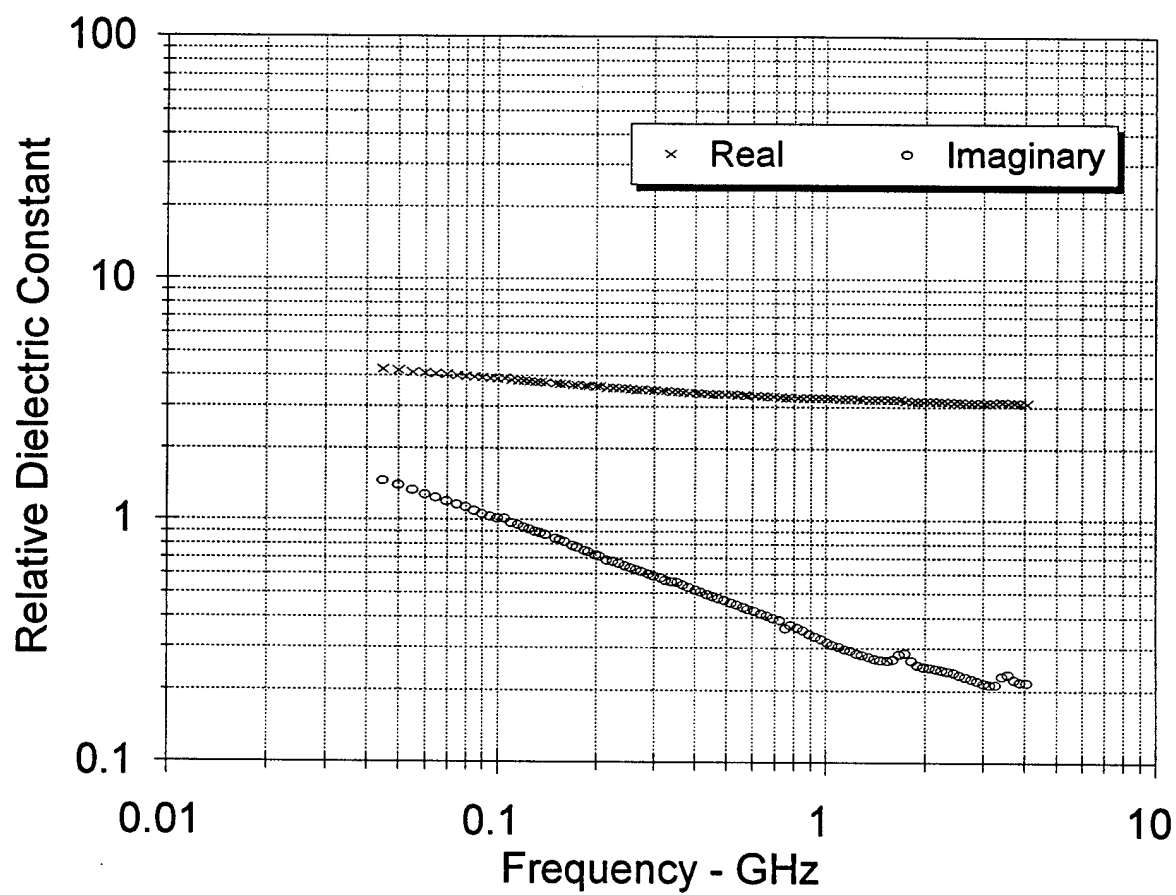
TC40E23N , File: 6SP61512

20 deg C, Mv = 5.6%, 1.360 g/cc (dry)

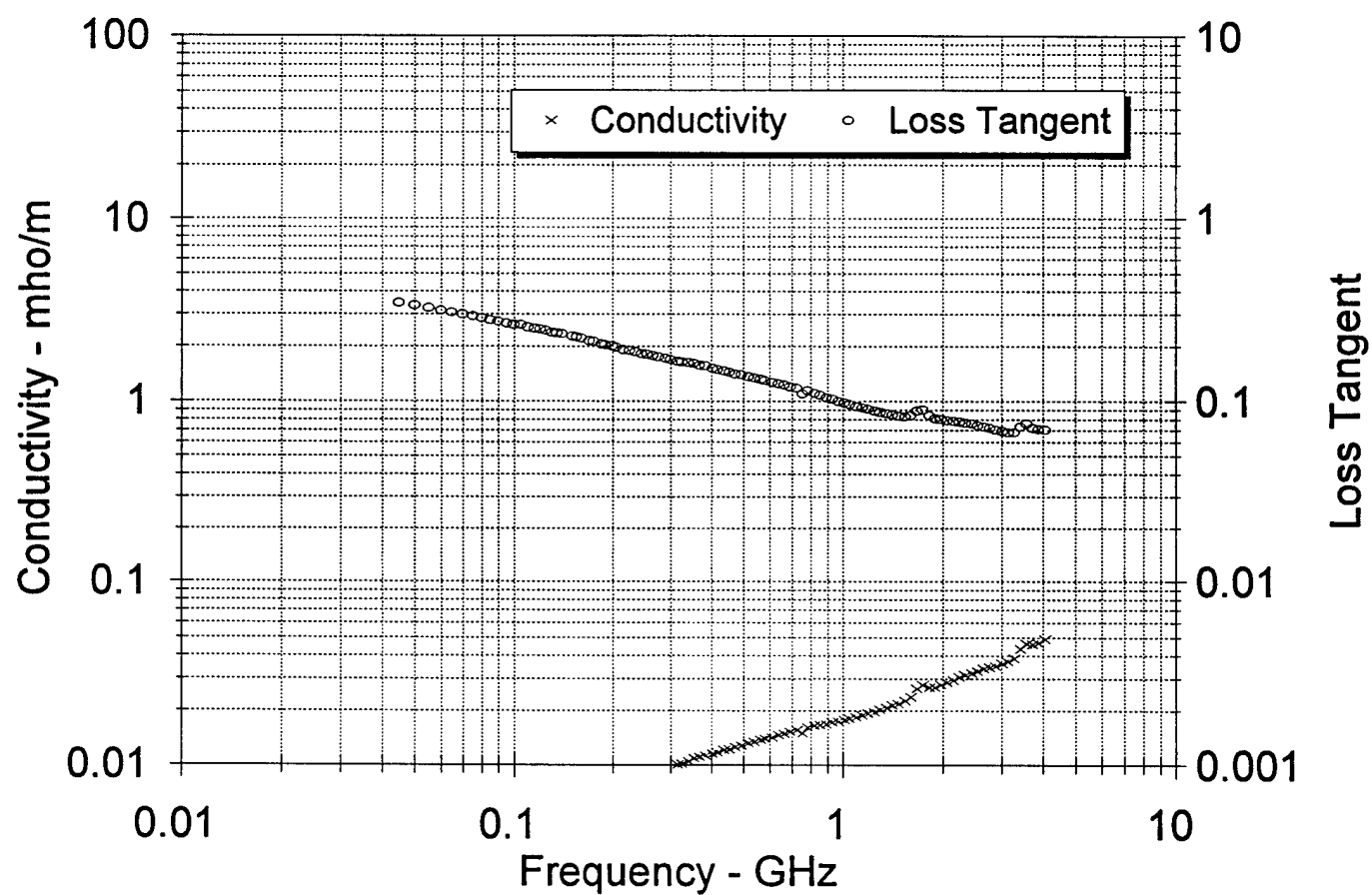
0.045	4.2255	1.4577	0.0036	0.345	2.8615	0.4796
0.05	4.1847	1.3933	0.0039	0.3329	3.0566	0.4824
0.055	4.1212	1.3314	0.0041	0.3231	3.2399	0.4864
0.06	4.0998	1.2807	0.0043	0.3124	3.4115	0.4881
0.065	4.056	1.236	0.0045	0.3047	3.588	0.491
0.07	4.0201	1.1928	0.0046	0.2967	3.7476	0.4935
0.075	3.9856	1.1551	0.0048	0.2898	3.9071	0.4958
0.08	3.9716	1.1265	0.005	0.2836	4.0731	0.4969
0.085	3.9353	1.0927	0.0052	0.2777	4.2191	0.4994
0.09	3.9083	1.0624	0.0053	0.2718	4.36	0.5013
0.095	3.891	1.0351	0.0055	0.266	4.4954	0.5026
0.1	3.8641	1.0151	0.0056	0.2627	4.6575	0.5045
0.105	3.8838	1.0182	0.0059	0.2622	4.8931	0.5032
0.11	3.83	0.9736	0.006	0.2542	4.9383	0.507
0.115	3.808	0.9533	0.0061	0.2504	5.0713	0.5085
0.12	3.7931	0.934	0.0062	0.2462	5.1957	0.5097
0.125	3.776	0.9172	0.0064	0.2429	5.3278	0.5109
0.13	3.7597	0.8996	0.0065	0.2393	5.448	0.5121
0.135	3.7473	0.8845	0.0066	0.236	5.5723	0.5131
0.14	3.7322	0.8692	0.0068	0.2329	5.6913	0.5142
0.15	3.7046	0.8399	0.007	0.2267	5.916	0.5163
0.155	3.6904	0.8276	0.0071	0.2243	6.0365	0.5173
0.16	3.6782	0.8145	0.0072	0.2214	6.1434	0.5183
0.17	3.6555	0.7861	0.0074	0.215	6.3215	0.5201
0.175	3.6431	0.7733	0.0075	0.2123	6.4131	0.521
0.185	3.6225	0.7491	0.0077	0.2068	6.5886	0.5227
0.19	3.6114	0.7384	0.0078	0.2045	6.6809	0.5235
0.2	3.5945	0.719	0.008	0.2	6.8648	0.5249
0.205	3.5851	0.7084	0.0081	0.1976	6.9423	0.5256
0.215	3.5589	0.6822	0.0082	0.1917	7.0401	0.5277
0.225	3.5583	0.6757	0.0085	0.1899	7.2982	0.5276
0.235	3.5412	0.6623	0.0087	0.187	7.4905	0.5291
0.245	3.529	0.6485	0.0088	0.1838	7.6605	0.5301
0.255	3.5147	0.6355	0.009	0.1808	7.8304	0.5313
0.265	3.5023	0.6251	0.0092	0.1785	8.0193	0.5322
0.275	3.4906	0.614	0.0094	0.1759	8.1886	0.5332
0.29	3.4745	0.598	0.0096	0.1721	8.4316	0.5345
0.3	3.4634	0.5897	0.0098	0.1703	8.6162	0.5354
0.315	3.4509	0.576	0.0101	0.1669	8.8536	0.5365
0.325	3.4422	0.5663	0.0102	0.1645	8.9934	0.5372
0.34	3.4291	0.5574	0.0105	0.1626	9.2793	0.5383
0.355	3.4278	0.5545	0.0109	0.1618	9.6393	0.5384
0.37	3.408	0.5384	0.0111	0.158	9.7846	0.54
0.385	3.3981	0.5293	0.0113	0.1558	10.0258	0.5409
0.405	3.3859	0.5145	0.0116	0.152	10.2708	0.5419
0.42	3.3779	0.5059	0.0118	0.1498	10.4856	0.5426
0.44	3.3677	0.4947	0.0121	0.1469	10.7607	0.5435
0.455	3.361	0.487	0.0123	0.1449	10.9661	0.544
0.475	3.3518	0.4765	0.0126	0.1422	11.2178	0.5448

0.495	3.3426	0.4684	0.0129	0.1401	11.5072	0.5456
0.52	3.3327	0.4568	0.0132	0.1371	11.8078	0.5465
0.54	3.3252	0.4488	0.0135	0.135	12.0606	0.5472
0.565	3.3169	0.4393	0.0138	0.1324	12.3687	0.5479
0.585	3.3098	0.4318	0.014	0.1305	12.6031	0.5485
0.61	3.3018	0.4225	0.0143	0.128	12.874	0.5492
0.64	3.2943	0.4127	0.0147	0.1253	13.2108	0.5499
0.665	3.2879	0.4048	0.015	0.1231	13.4767	0.5505
0.695	3.2794	0.3956	0.0153	0.1206	13.7862	0.5512
0.725	3.2717	0.3882	0.0156	0.1186	14.1267	0.5519
0.755	3.2584	0.3598	0.0151	0.1104	13.6671	0.5531
0.785	3.2568	0.3719	0.0162	0.1142	14.692	0.5532
0.82	3.2478	0.3611	0.0165	0.1112	14.9233	0.554
0.855	3.2402	0.3516	0.0167	0.1085	15.1686	0.5547
0.895	3.2343	0.3406	0.0169	0.1053	15.3946	0.5553
0.93	3.2295	0.3325	0.0172	0.103	15.6296	0.5557
0.97	3.2239	0.3239	0.0175	0.1005	15.8938	0.5562
1.015	3.2181	0.316	0.0178	0.0982	16.2422	0.5568
1.055	3.2139	0.3085	0.0181	0.096	16.4937	0.5572
1.1	3.2109	0.3019	0.0185	0.094	16.8384	0.5575
1.15	3.2061	0.2959	0.0189	0.0923	17.2653	0.5579
1.195	3.2019	0.291	0.0193	0.0909	17.6605	0.5583
1.25	3.1972	0.2839	0.0197	0.0888	18.0377	0.5587
1.3	3.194	0.2788	0.0202	0.0873	18.4285	0.559
1.36	3.1914	0.2745	0.0208	0.086	18.9925	0.5593
1.415	3.1891	0.2702	0.0213	0.0847	19.4555	0.5595
1.475	3.188	0.2659	0.0218	0.0834	19.9653	0.5596
1.54	3.1882	0.2644	0.0226	0.0829	20.7251	0.5596
1.605	3.1904	0.2671	0.0238	0.0837	21.8102	0.5594
1.675	3.1863	0.2815	0.0262	0.0883	24.0004	0.5597
1.745	3.1562	0.2847	0.0276	0.0902	25.411	0.5623
1.82	3.1444	0.2644	0.0268	0.0841	24.6637	0.5634
1.9	3.1446	0.2546	0.0269	0.081	24.7957	0.5635
1.98	3.1432	0.2507	0.0276	0.0798	25.4489	0.5636
2.065	3.14	0.2481	0.0285	0.079	26.2816	0.5639
2.155	3.136	0.2455	0.0294	0.0783	27.1541	0.5643
2.25	3.1318	0.2427	0.0304	0.0775	28.0504	0.5646
2.345	3.1264	0.2392	0.0312	0.0765	28.8362	0.5651
2.445	3.1216	0.2357	0.032	0.0755	29.6429	0.5656
2.55	3.1168	0.2314	0.0328	0.0742	30.3759	0.566
2.66	3.1127	0.2271	0.0336	0.073	31.1285	0.5664
2.775	3.1091	0.2227	0.0344	0.0716	31.859	0.5668
2.89	3.1059	0.2181	0.035	0.0702	32.5068	0.5671
3.015	3.1054	0.2142	0.0359	0.069	33.3214	0.5671
3.145	3.1068	0.2108	0.0369	0.0678	34.1889	0.567
3.28	3.1117	0.2106	0.0384	0.0677	35.6061	0.5666
3.42	3.1156	0.2276	0.0433	0.073	40.0829	0.5662
3.57	3.0881	0.2327	0.0462	0.0754	42.9697	0.5686
3.72	3.0814	0.2206	0.0456	0.0716	42.4872	0.5693
3.88	3.0802	0.2168	0.0468	0.0704	43.5665	0.5694
4.045	3.0782	0.2155	0.0485	0.07	45.1676	0.5696

TC40E23N , File: 6SP61512  
20 deg C, Mv = 5.6%, 1.360 g/cc (dry)

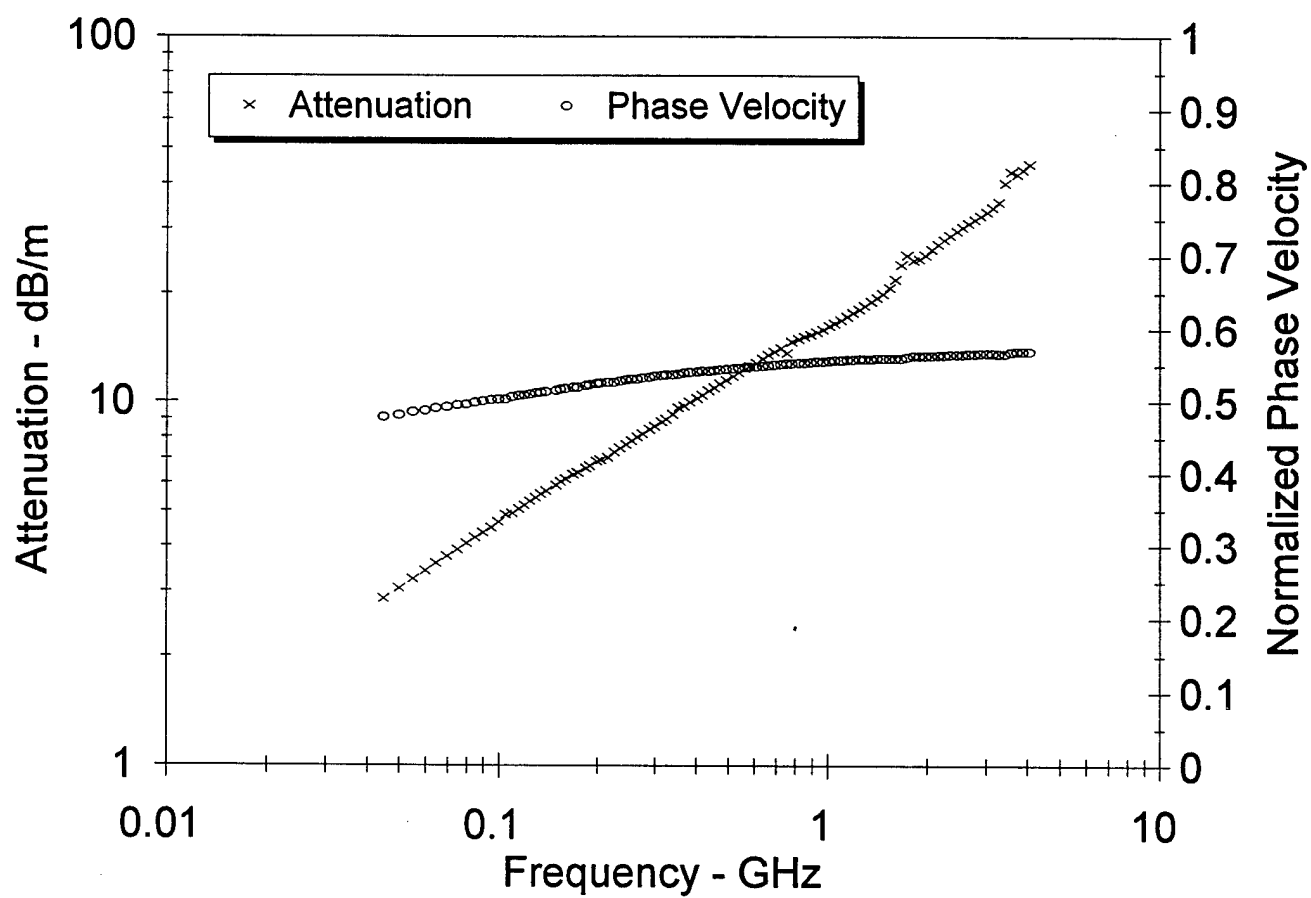


TC40E23N , File: 6SP61512  
20 deg C, Mv = 5.6%, 1.360 g/cc (dry)





TC40E23N , File: 6SP61512  
20 deg C, Mv = 5.6%, 1.360 g/cc (dry)



6SP61521  
SB40E23N

4.9

3

7.2

SB40E23N , File: 6SP61521

20 deg C, Mv = 7.2%, 1.310 g/cc (dry)

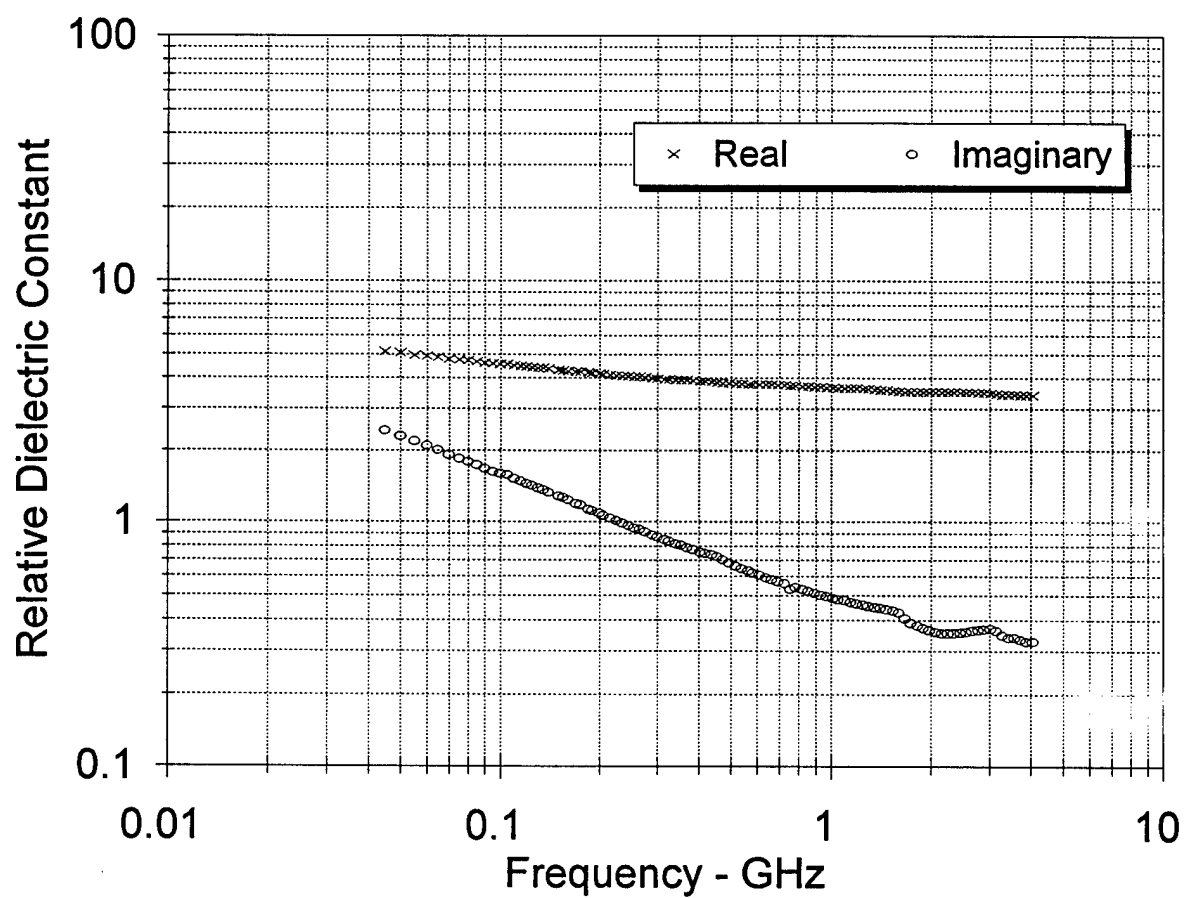
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1.31

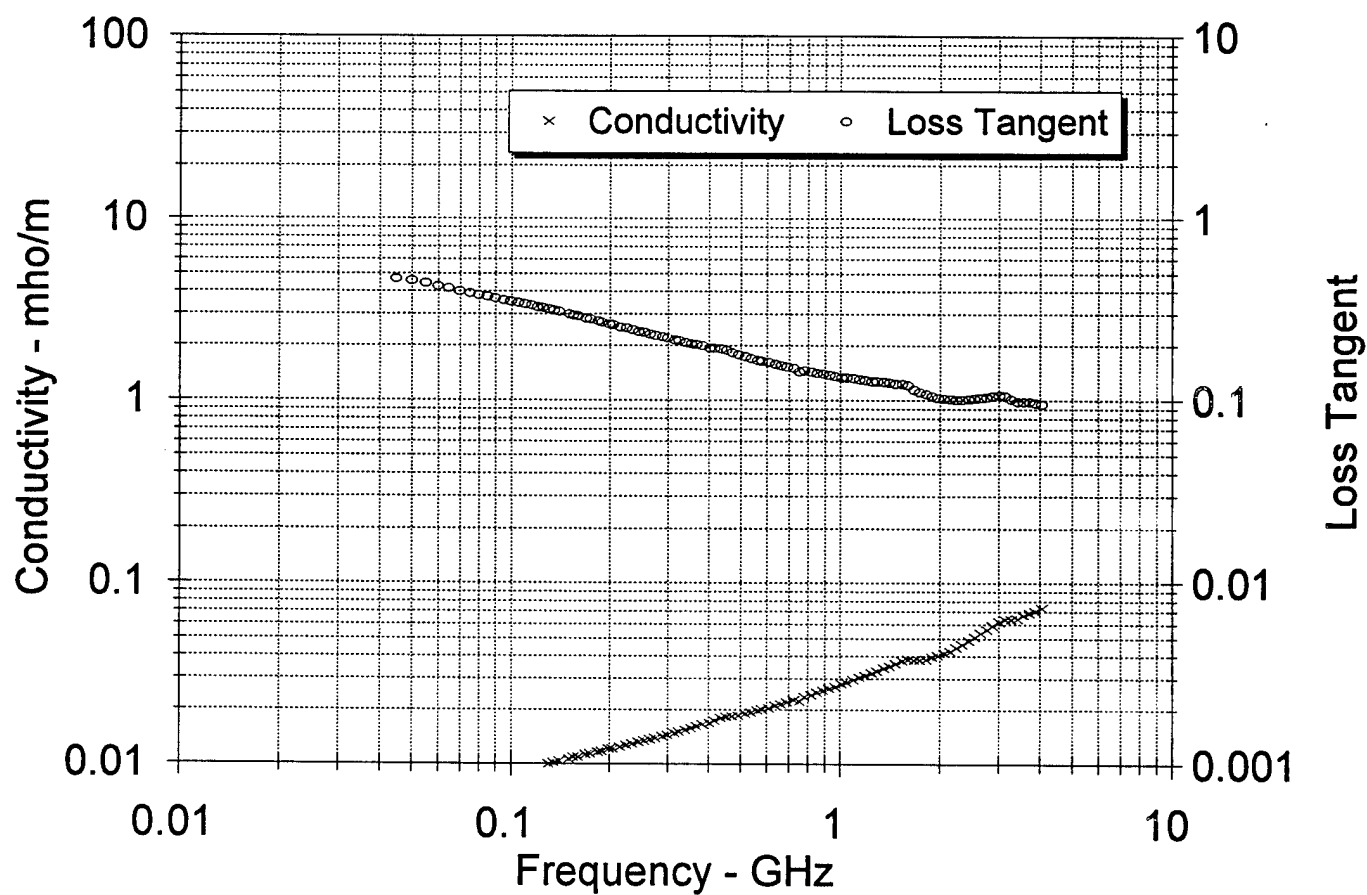
0.045	5.1326	2.4043	0.006	0.4684	4.2349	0.4303
0.05	5.0493	2.2858	0.0064	0.4527	4.5173	0.4345
0.055	4.9582	2.168	0.0066	0.4373	4.7632	0.4392
0.06	4.9084	2.0811	0.0069	0.424	5.0196	0.4419
0.065	4.8417	1.9937	0.0072	0.4118	5.2511	0.4455
0.07	4.7909	1.9085	0.0074	0.3984	5.4487	0.4484
0.075	4.7408	1.8385	0.0077	0.3878	5.6584	0.4512
0.08	4.6987	1.7845	0.0079	0.3798	5.8888	0.4535
0.085	4.6529	1.7307	0.0082	0.372	6.1021	0.456
0.09	4.6144	1.6769	0.0084	0.3634	6.2906	0.4582
0.095	4.5858	1.6256	0.0086	0.3545	6.4617	0.46
0.1	4.5439	1.5852	0.0088	0.3489	6.6662	0.4623
0.105	4.5475	1.5702	0.0092	0.3453	6.9327	0.4623
0.11	4.4908	1.5148	0.0093	0.3373	7.0552	0.4655
0.115	4.4594	1.4778	0.0095	0.3314	7.2241	0.4673
0.12	4.4391	1.444	0.0096	0.3253	7.3862	0.4686
0.125	4.4095	1.4159	0.0098	0.3211	7.572	0.4703
0.13	4.3855	1.3851	0.01	0.3158	7.7274	0.4718
0.135	4.3645	1.36	0.0102	0.3116	7.9004	0.4731
0.14	4.3436	1.3315	0.0104	0.3066	8.044	0.4744
0.15	4.3031	1.2844	0.0107	0.2985	8.3574	0.4769
0.155	4.2837	1.2617	0.0109	0.2945	8.505	0.4781
0.16	4.2641	1.2386	0.011	0.2905	8.6403	0.4793
0.17	4.2305	1.1953	0.0113	0.2825	8.8992	0.4815
0.175	4.2139	1.1745	0.0114	0.2787	9.0221	0.4826
0.185	4.1863	1.1365	0.0117	0.2715	9.2637	0.4844
0.19	4.1693	1.1177	0.0118	0.2681	9.3773	0.4855
0.2	4.147	1.0864	0.0121	0.262	9.6238	0.487
0.205	4.1333	1.0677	0.0122	0.2583	9.7136	0.4879
0.215	4.1072	1.0382	0.0124	0.2528	9.9402	0.4896
0.225	4.0924	1.0146	0.0127	0.2479	10.1875	0.4906
0.235	4.0713	0.9921	0.013	0.2437	10.434	0.492
0.245	4.0545	0.9688	0.0132	0.2389	10.6472	0.4932
0.255	4.0363	0.9475	0.0134	0.2347	10.8647	0.4944
0.265	4.0177	0.9285	0.0137	0.2311	11.093	0.4956
0.275	4.0027	0.9106	0.0139	0.2275	11.3126	0.4967
0.29	3.9804	0.8854	0.0143	0.2224	11.6351	0.4982
0.3	3.9683	0.8703	0.0145	0.2193	11.8517	0.499
0.315	3.9507	0.8474	0.0148	0.2145	12.1464	0.5003
0.325	3.9395	0.8342	0.0151	0.2118	12.3567	0.5011
0.34	3.9251	0.8141	0.0154	0.2074	12.6409	0.5021
0.355	3.9187	0.8049	0.0159	0.2054	13.0614	0.5025
0.37	3.898	0.7851	0.0162	0.2014	13.3157	0.504
0.385	3.8866	0.7723	0.0165	0.1987	13.6514	0.5048
0.405	3.872	0.7505	0.0169	0.1938	13.985	0.5059
0.42	3.862	0.743	0.0174	0.1924	14.3782	0.5065
0.44	3.8427	0.7324	0.0179	0.1906	14.887	0.5079
0.455	3.8235	0.7205	0.0182	0.1884	15.1835	0.5092
0.475	3.8061	0.6977	0.0184	0.1833	15.3883	0.5105

0.495	3.7953	0.6769	0.0186	0.1783	15.5824	0.5113
0.52	3.7855	0.6565	0.019	0.1734	15.9004	0.5121
0.54	3.7784	0.6433	0.0193	0.1703	16.1969	0.5126
0.565	3.7685	0.6288	0.0198	0.1669	16.5888	0.5134
0.585	3.7618	0.6183	0.0201	0.1644	16.9052	0.5139
0.61	3.7525	0.6056	0.0205	0.1614	17.2908	0.5146
0.64	3.7439	0.5916	0.0211	0.158	17.7428	0.5152
0.665	3.7354	0.5816	0.0215	0.1557	18.1468	0.5159
0.695	3.7262	0.5702	0.022	0.153	18.6185	0.5165
0.725	3.7168	0.5602	0.0226	0.1507	19.1066	0.5172
0.755	3.7057	0.5323	0.0223	0.1436	18.9401	0.5181
0.785	3.7006	0.5411	0.0236	0.1462	20.0299	0.5185
0.82	3.6907	0.5306	0.0242	0.1438	20.5464	0.5192
0.855	3.6812	0.5217	0.0248	0.1417	21.0926	0.5199
0.895	3.6713	0.5124	0.0255	0.1396	21.7183	0.5206
0.93	3.6639	0.505	0.0261	0.1378	22.2631	0.5212
0.97	3.6555	0.4969	0.0268	0.1359	22.8767	0.5218
1.015	3.6446	0.49	0.0277	0.1344	23.6427	0.5226
1.055	3.6365	0.4837	0.0284	0.133	24.2885	0.5232
1.1	3.6262	0.4788	0.0293	0.1321	25.105	0.524
1.15	3.6148	0.4721	0.0302	0.1306	25.92	0.5249
1.195	3.6054	0.4668	0.031	0.1295	26.6644	0.5256
1.25	3.5939	0.4594	0.0319	0.1278	27.4975	0.5264
1.3	3.5844	0.4543	0.0328	0.1267	28.3171	0.5271
1.36	3.5728	0.4496	0.034	0.1258	29.3663	0.528
1.415	3.5622	0.4449	0.035	0.1249	30.2811	0.5288
1.475	3.5508	0.4396	0.0361	0.1238	31.2415	0.5297
1.54	3.5362	0.4359	0.0373	0.1233	32.4062	0.5308
1.605	3.5164	0.4276	0.0382	0.1216	33.2264	0.5323
1.675	3.5023	0.405	0.0377	0.1156	32.9148	0.5335
1.745	3.5013	0.3886	0.0377	0.111	32.9083	0.5336
1.82	3.5007	0.3788	0.0383	0.1082	33.4638	0.5337
1.9	3.4987	0.3707	0.0392	0.1059	34.2003	0.5339
1.98	3.4969	0.3641	0.0401	0.1041	35.0145	0.534
2.065	3.4955	0.3587	0.0412	0.1026	35.9919	0.5342
2.155	3.4949	0.3545	0.0425	0.1014	37.1227	0.5342
2.25	3.4947	0.353	0.0442	0.101	38.5908	0.5342
2.345	3.4929	0.3525	0.046	0.1009	40.1829	0.5344
2.445	3.4894	0.3557	0.0484	0.1019	42.2878	0.5346
2.55	3.4825	0.3572	0.0507	0.1026	44.3412	0.5352
2.66	3.4757	0.3612	0.0534	0.1039	46.8076	0.5357
2.775	3.4663	0.3632	0.056	0.1048	49.1668	0.5364
2.89	3.4545	0.3658	0.0588	0.1059	51.6653	0.5373
3.015	3.4391	0.3676	0.0616	0.1069	54.2861	0.5385
3.145	3.4211	0.3619	0.0633	0.1058	55.8892	0.5399
3.28	3.4088	0.3462	0.0631	0.1016	55.8679	0.5409
3.42	3.4109	0.3384	0.0643	0.0992	56.9217	0.5408
3.57	3.4057	0.3374	0.067	0.0991	59.2877	0.5412
3.72	3.3992	0.3332	0.0689	0.098	61.0695	0.5417
3.88	3.395	0.3284	0.0709	0.0967	62.8334	0.5421
4.045	3.3936	0.3255	0.0732	0.0959	64.9389	0.5422

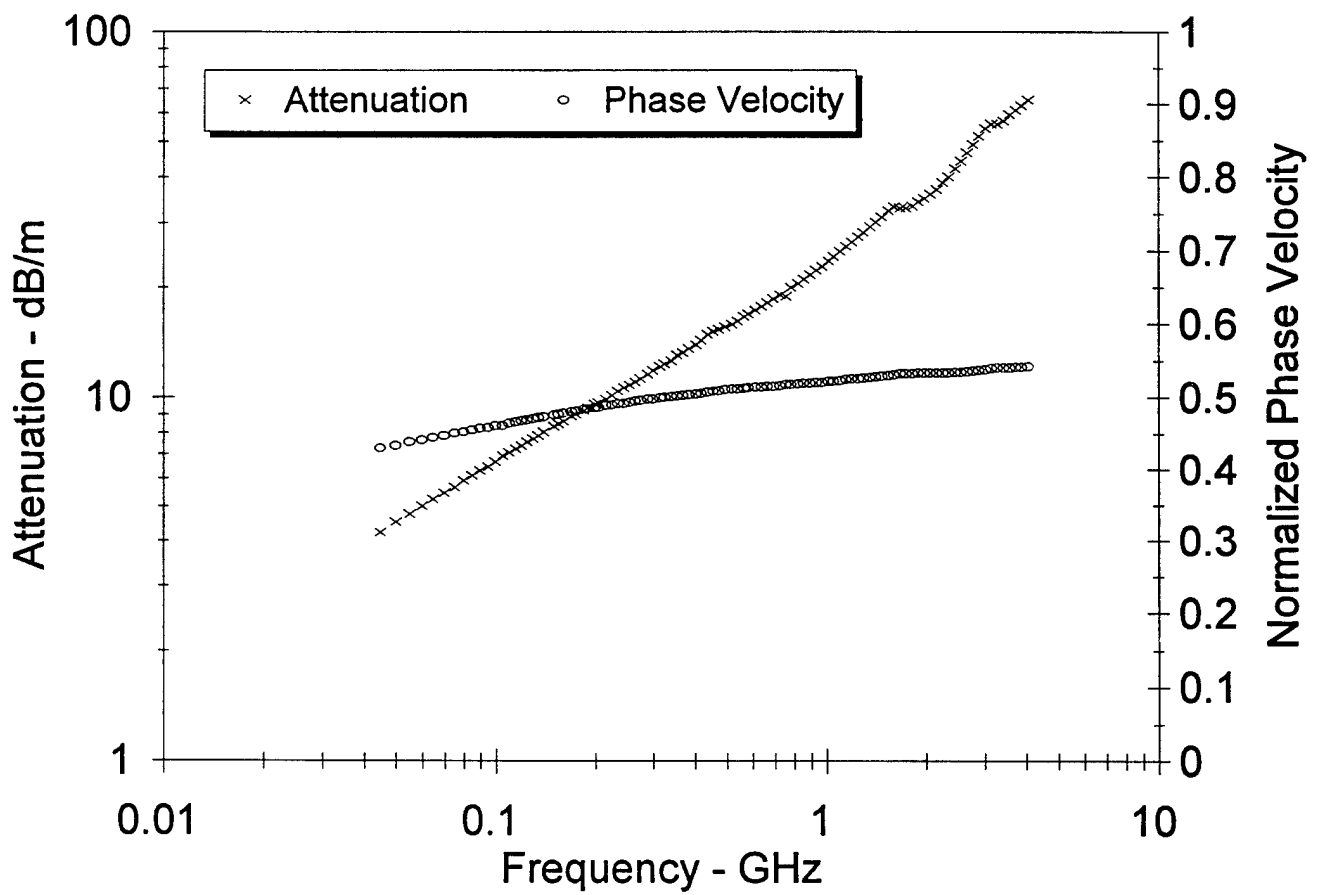
SB40E23N , File: 6SP61521  
20 deg C, Mv = 7.2%, 1.310 g/cc (dry)



SB40E23N , File: 6SP61521  
20 deg C, Mv = 7.2%, 1.310 g/cc (dry)



SB40E23N , File: 6SP61521  
20 deg C, Mv = 7.2%, 1.310 g/cc (dry)



6SP61530  
TC77.5E60.5N

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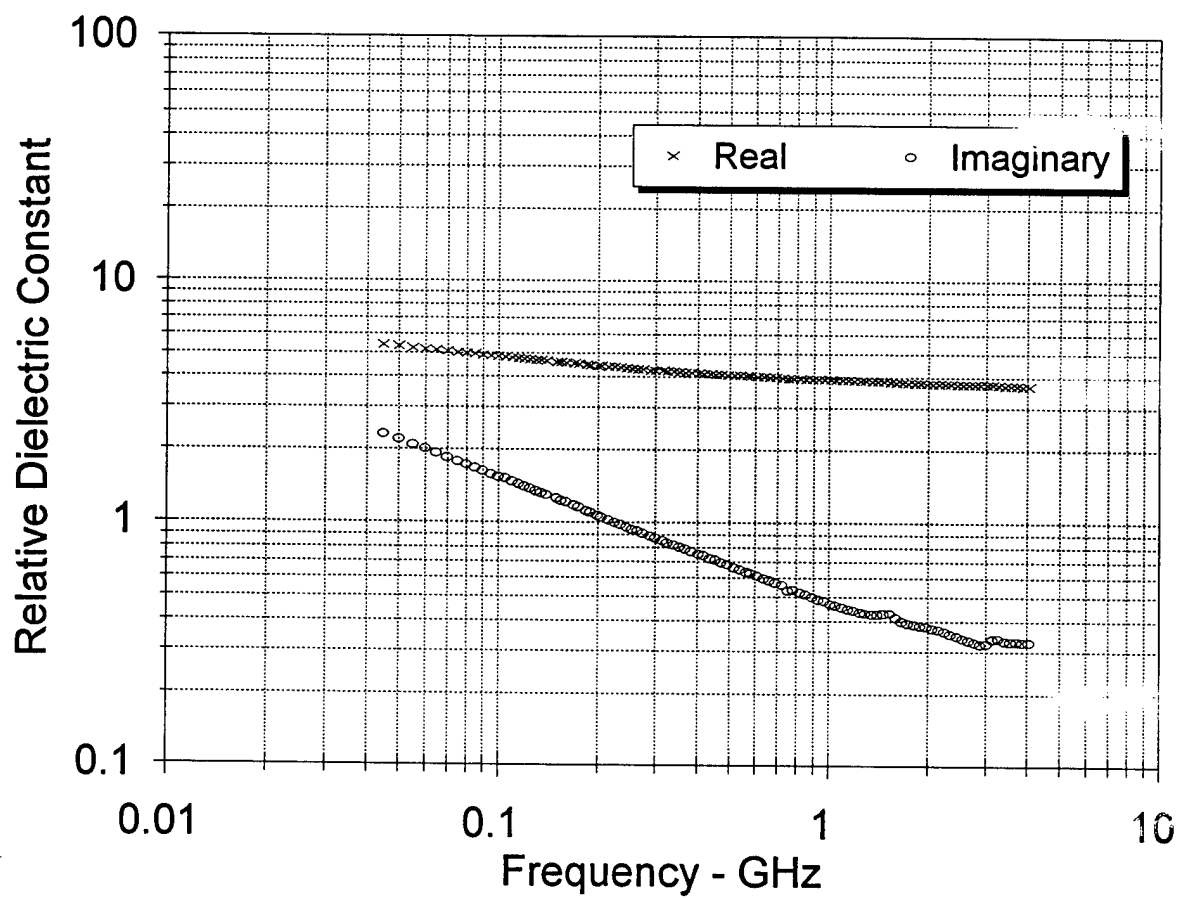
TC77.5E60.5N , File: 6SP61530  
20 deg C, Mv = 7.6%, 1.400 g/cc (dry)

0.045	5.3755	2.2986	0.0058	0.4276	3.9719	0.4222
0.05	5.3021	2.1899	0.0061	0.413	4.2393	0.4257
0.055	5.2168	2.0739	0.0063	0.3975	4.4584	0.4297
0.06	5.1694	1.9959	0.0067	0.3861	4.707	0.4321
0.065	5.1046	1.9116	0.0069	0.3745	4.9195	0.4353
0.07	5.0573	1.838	0.0072	0.3634	5.1225	0.4377
0.075	5.0107	1.7746	0.0074	0.3542	5.3277	0.4401
0.08	4.9772	1.7222	0.0077	0.346	5.5374	0.4419
0.085	4.9312	1.6688	0.0079	0.3384	5.7309	0.4442
0.09	4.89	1.6213	0.0081	0.3316	5.9232	0.4463
0.095	4.8564	1.5756	0.0083	0.3244	6.1005	0.4481
0.1	4.8173	1.5315	0.0085	0.3179	6.2698	0.4501
0.105	4.8083	1.5157	0.0088	0.3152	6.5228	0.4506
0.11	4.767	1.4693	0.009	0.3082	6.6564	0.4528
0.115	4.7428	1.4386	0.0092	0.3033	6.8335	0.4541
0.12	4.714	1.4055	0.0094	0.2982	6.9903	0.4557
0.125	4.6905	1.3805	0.0096	0.2943	7.1718	0.4569
0.13	4.6651	1.3491	0.0098	0.2892	7.3114	0.4583
0.135	4.6444	1.326	0.01	0.2855	7.481	0.4595
0.14	4.624	1.3005	0.0101	0.2812	7.6278	0.4606
0.15	4.5846	1.2572	0.0105	0.2742	7.9383	0.4628
0.155	4.564	1.2351	0.0106	0.2706	8.0786	0.4639
0.16	4.5482	1.2147	0.0108	0.2671	8.2178	0.4648
0.17	4.5125	1.1731	0.0111	0.26	8.4693	0.4669
0.175	4.4954	1.1554	0.0112	0.257	8.6048	0.4679
0.185	4.4648	1.1166	0.0115	0.2501	8.8247	0.4697
0.19	4.4488	1.1024	0.0116	0.2478	8.9651	0.4706
0.2	4.425	1.071	0.0119	0.242	9.1958	0.472
0.205	4.4125	1.0555	0.012	0.2392	9.3036	0.4727
0.215	4.386	1.0263	0.0123	0.234	9.5191	0.4743
0.225	4.3667	1.0027	0.0125	0.2296	9.7568	0.4755
0.235	4.3463	0.9839	0.0129	0.2264	10.0251	0.4767
0.245	4.3277	0.9625	0.0131	0.2224	10.2483	0.4778
0.255	4.3074	0.9416	0.0134	0.2186	10.462	0.479
0.265	4.2881	0.9249	0.0136	0.2157	10.7049	0.4802
0.275	4.2748	0.9057	0.0138	0.2119	10.8971	0.481
0.29	4.2492	0.8833	0.0142	0.2079	11.2437	0.4825
0.3	4.2352	0.8682	0.0145	0.205	11.4529	0.4834
0.315	4.2168	0.8464	0.0148	0.2007	11.7513	0.4846
0.325	4.2031	0.832	0.015	0.198	11.9391	0.4854
0.34	4.1875	0.8143	0.0154	0.1945	12.2493	0.4864
0.355	4.177	0.8016	0.0158	0.1919	12.6075	0.4871
0.37	4.1582	0.7839	0.0161	0.1885	12.8808	0.4882
0.385	4.1446	0.7689	0.0165	0.1855	13.1695	0.4891
0.405	4.1274	0.7496	0.0169	0.1816	13.5369	0.4902
0.42	4.1173	0.7365	0.0172	0.1789	13.8122	0.4909
0.44	4.1032	0.719	0.0176	0.1752	14.1521	0.4918
0.455	4.0922	0.7075	0.0179	0.1729	14.4202	0.4925
0.475	4.0793	0.6926	0.0183	0.1698	14.7642	0.4934

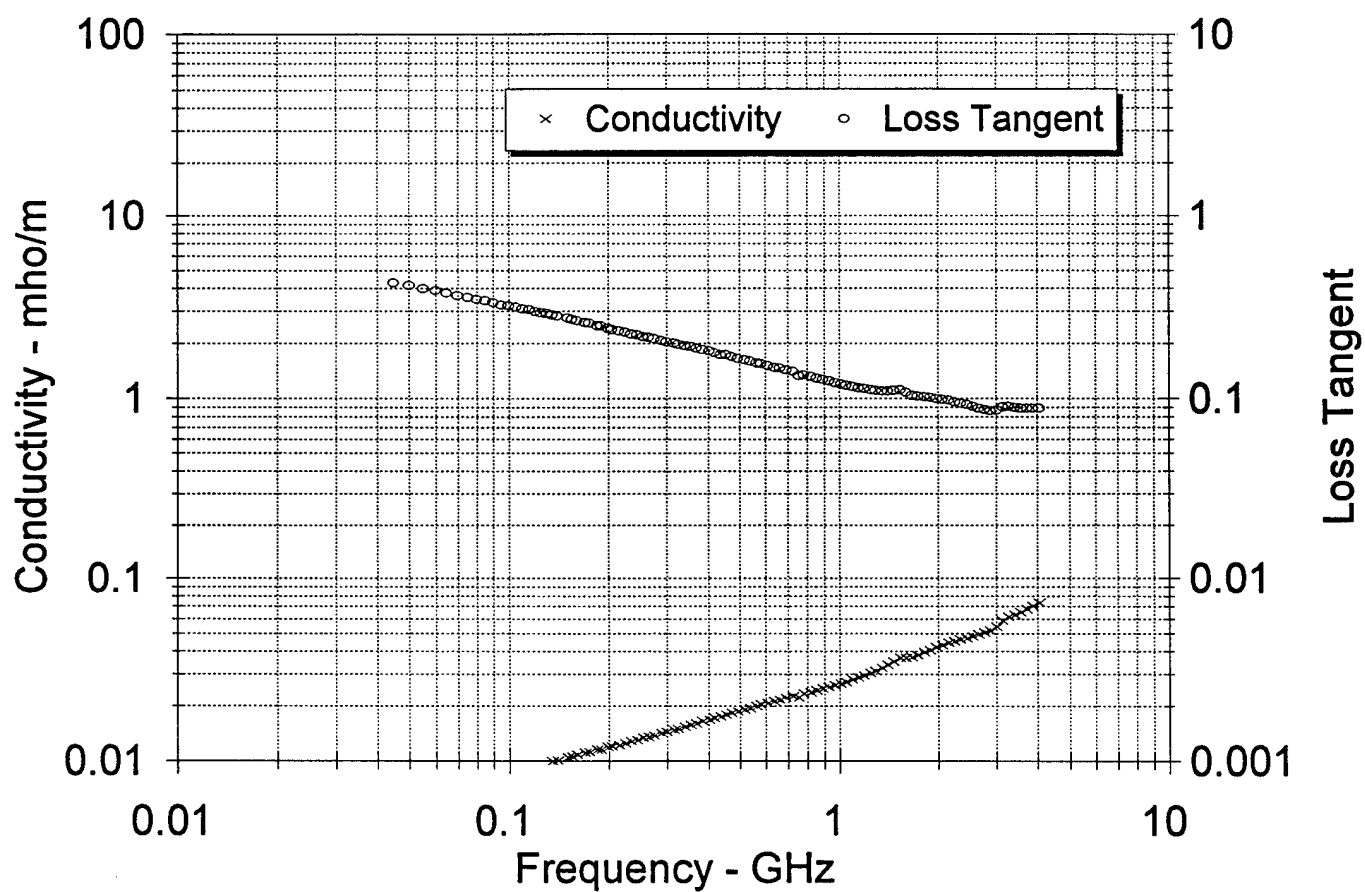
0.495	4.0663	0.6784	0.0187	0.1668	15.095	0.4942
0.52	4.0514	0.6604	0.0191	0.163	15.4683	0.4952
0.54	4.0409	0.6482	0.0195	0.1604	15.7869	0.4959
0.565	4.0285	0.6335	0.0199	0.1573	16.1709	0.4967
0.585	4.0189	0.6225	0.0203	0.1549	16.475	0.4973
0.61	4.0074	0.6094	0.0207	0.1521	16.8421	0.4981
0.64	3.997	0.595	0.0212	0.1489	17.2766	0.4988
0.665	3.9877	0.5837	0.0216	0.1464	17.6334	0.4994
0.695	3.9763	0.5712	0.0221	0.1437	18.0618	0.5002
0.725	3.9658	0.5595	0.0226	0.1411	18.4821	0.5009
0.755	3.9533	0.531	0.0223	0.1343	18.2987	0.5018
0.785	3.9475	0.5351	0.0234	0.1356	19.187	0.5022
0.82	3.9382	0.5227	0.0238	0.1327	19.6035	0.5028
0.855	3.9286	0.511	0.0243	0.1301	20.006	0.5035
0.895	3.9193	0.499	0.0248	0.1273	20.4774	0.5041
0.93	3.9122	0.4898	0.0253	0.1252	20.9089	0.5046
0.97	3.9045	0.4803	0.0259	0.123	21.4034	0.5051
1.015	3.8954	0.4698	0.0265	0.1206	21.9378	0.5058
1.055	3.8898	0.4617	0.0271	0.1187	22.4232	0.5061
1.1	3.8851	0.4543	0.0278	0.1169	23.0216	0.5065
1.15	3.8764	0.4466	0.0286	0.1152	23.6867	0.5071
1.195	3.8694	0.4404	0.0293	0.1138	24.2938	0.5075
1.25	3.8624	0.4333	0.0301	0.1122	25.0282	0.508
1.3	3.8571	0.4283	0.031	0.111	25.7481	0.5084
1.36	3.851	0.4258	0.0322	0.1106	26.8001	0.5088
1.415	3.8452	0.4243	0.0334	0.1104	27.8086	0.5092
1.475	3.8355	0.4266	0.035	0.1112	29.1816	0.5098
1.54	3.815	0.4283	0.0367	0.1123	30.6715	0.5112
1.605	3.7955	0.4114	0.0367	0.1084	30.7849	0.5125
1.675	3.7927	0.3965	0.0369	0.1045	30.9784	0.5128
1.745	3.789	0.3907	0.0379	0.1031	31.8164	0.5131
1.82	3.7837	0.387	0.0392	0.1023	32.8906	0.5134
1.9	3.7758	0.3831	0.0405	0.1015	34.0263	0.514
1.98	3.7675	0.3786	0.0417	0.1005	35.0852	0.5145
2.065	3.7586	0.3737	0.0429	0.0994	36.1641	0.5152
2.155	3.7504	0.368	0.0441	0.0981	37.202	0.5157
2.25	3.7422	0.361	0.0452	0.0965	38.1518	0.5163
2.345	3.7348	0.3539	0.0461	0.0948	39.0172	0.5169
2.445	3.7288	0.3465	0.0471	0.0929	39.8618	0.5173
2.55	3.724	0.3389	0.0481	0.091	40.697	0.5177
2.66	3.7206	0.3321	0.0491	0.0893	41.6174	0.5179
2.775	3.7192	0.3259	0.0503	0.0876	42.6145	0.518
2.89	3.7187	0.3213	0.0516	0.0864	43.7517	0.5181
3.015	3.7231	0.3228	0.0541	0.0867	45.8329	0.5178
3.145	3.7211	0.3359	0.0588	0.0903	49.7689	0.5179
3.28	3.7015	0.3373	0.0615	0.0911	52.259	0.5192
3.42	3.6934	0.3311	0.063	0.0896	53.5372	0.5198
3.57	3.688	0.329	0.0653	0.0892	55.579	0.5202
3.72	3.681	0.3288	0.068	0.0893	57.9349	0.5207
3.88	3.6719	0.3282	0.0708	0.0894	60.3766	0.5213
4.045	3.6628	0.3255	0.0732	0.0889	62.5075	0.522



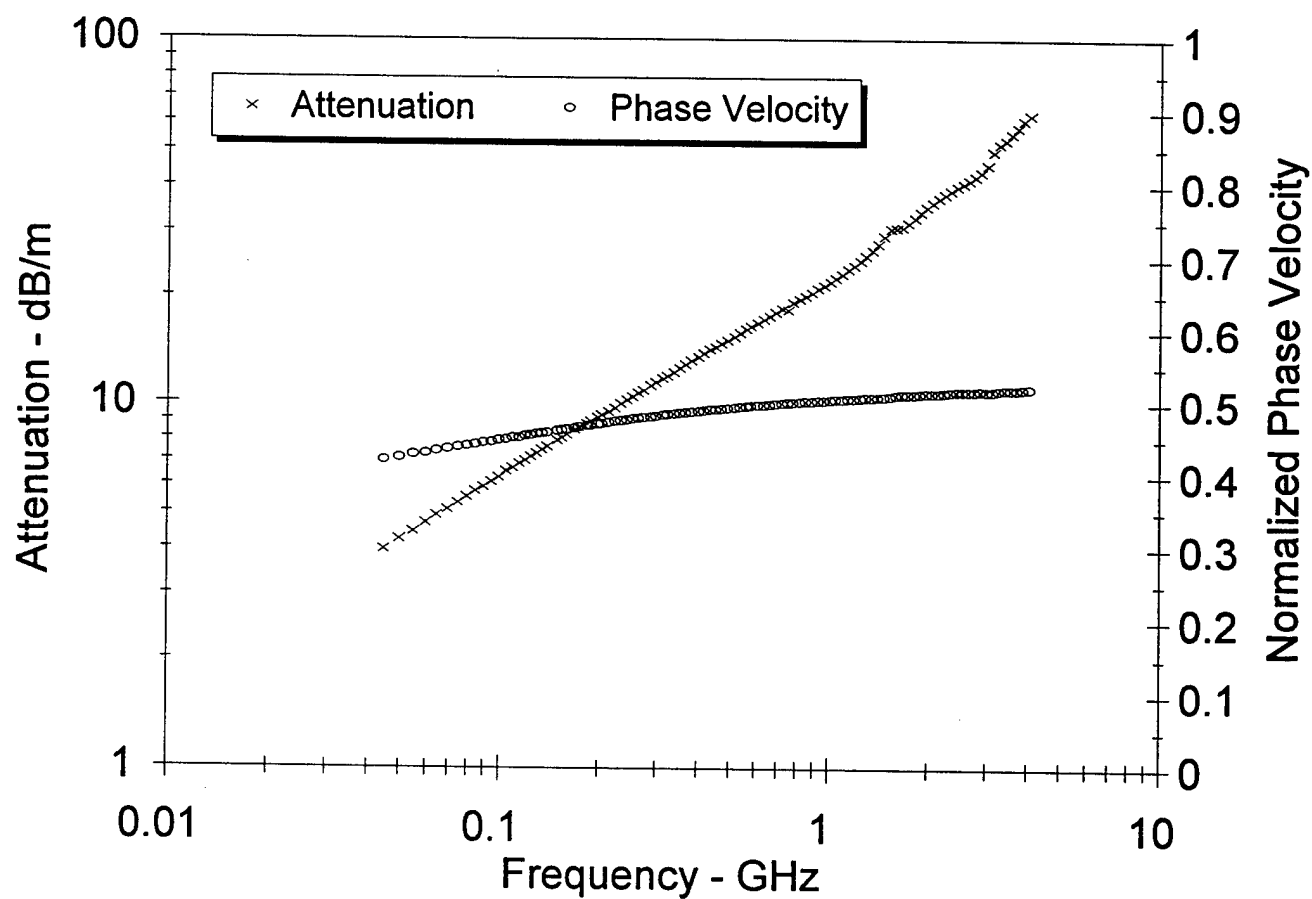
TC77.5E60.5N , File: 6SP61530  
20 deg C, Mv = 7.6%, 1.400 g/cc (dry)



TC77.5E60.5N , File: 6SP61530  
20 deg C, Mv = 7.6%, 1.400 g/cc (dry)



TC77.5E60.5N , File: 6SP61530  
20 deg C, Mv = 7.6%, 1.400 g/cc (dry)



6SP61622  
SB27.5E73N

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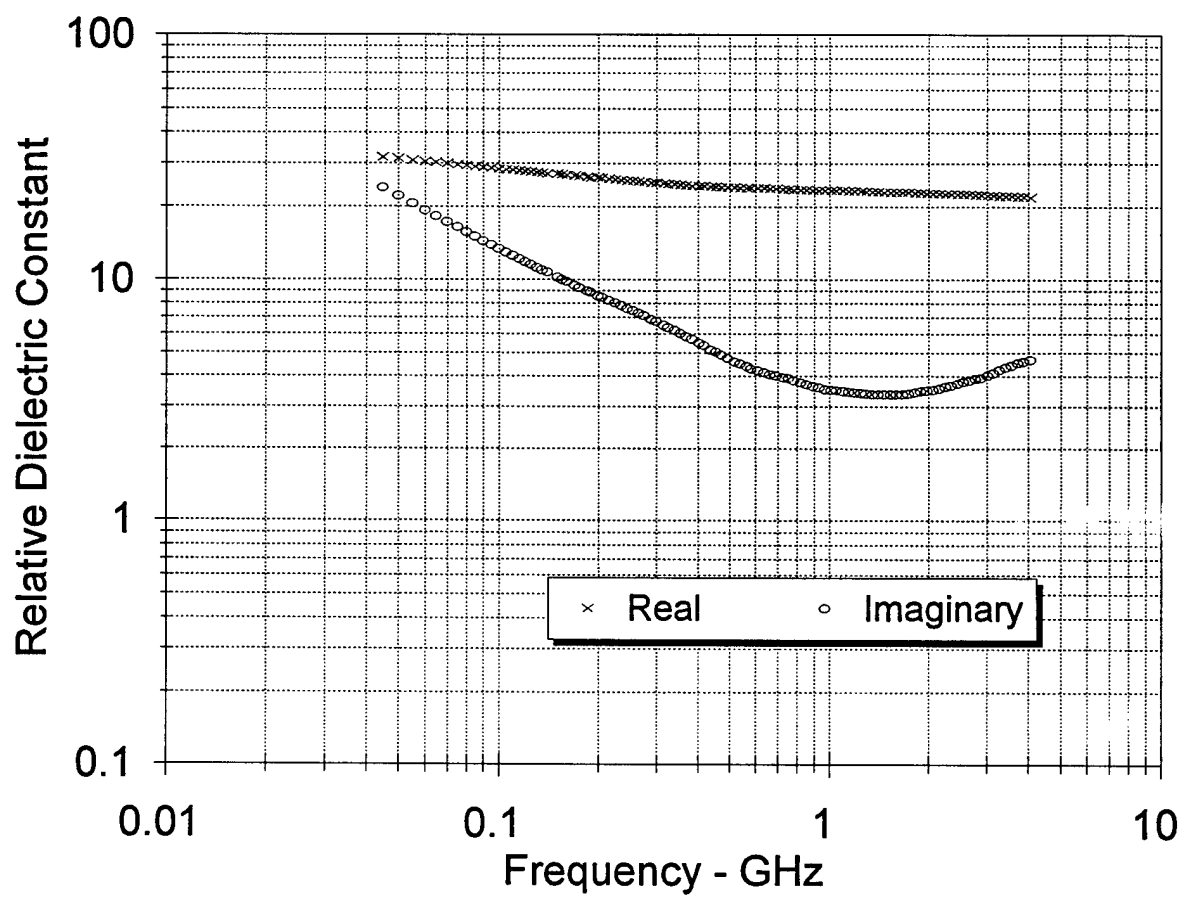
SB27.5E73N , File: 6SP61622

20 deg C, Mv = 41.0%, 1.280 g/cc (dry)

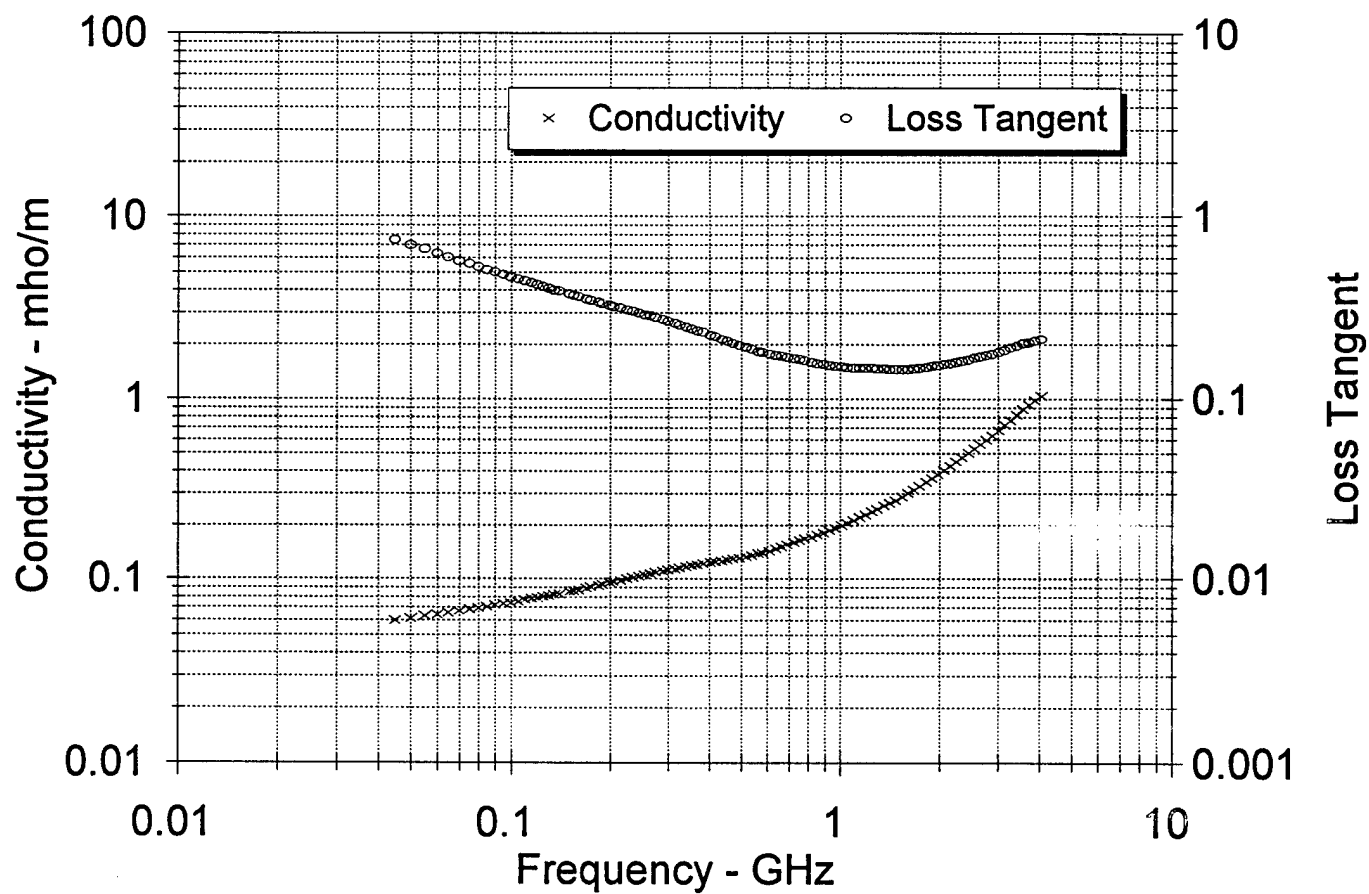
0.045	31.8237	23.7818	0.0595	0.7473	16.2744	0.1672
0.05	31.3302	21.9781	0.0611	0.7015	16.9438	0.1695
0.055	30.8919	20.4948	0.0627	0.6634	17.5883	0.1715
0.06	30.5176	19.1899	0.064	0.6288	18.1532	0.1733
0.065	30.1732	18.1266	0.0655	0.6008	18.7452	0.1749
0.07	29.8624	17.206	0.067	0.5762	19.317	0.1763
0.075	29.5608	16.3627	0.0682	0.5535	19.8339	0.1777
0.08	29.2816	15.6213	0.0695	0.5335	20.3391	0.1789
0.085	29.0434	14.9691	0.0708	0.5154	20.8338	0.18
0.09	28.8138	14.3815	0.072	0.4991	21.3147	0.181
0.095	28.6135	13.8533	0.0732	0.4842	21.7822	0.182
0.1	28.398	13.3592	0.0743	0.4704	22.2257	0.1829
0.105	28.2213	12.9107	0.0754	0.4575	22.6533	0.1837
0.11	28.0668	12.5324	0.0767	0.4465	23.1248	0.1844
0.115	27.9098	12.1525	0.0777	0.4354	23.5342	0.1851
0.12	27.7592	11.8201	0.0789	0.4258	23.9722	0.1858
0.125	27.6163	11.4933	0.0799	0.4162	24.3652	0.1865
0.13	27.4784	11.1953	0.0809	0.4074	24.7644	0.1871
0.135	27.3543	10.9234	0.082	0.3993	25.1676	0.1876
0.14	27.2327	10.6657	0.083	0.3916	25.5581	0.1882
0.15	27.0173	10.2024	0.0851	0.3776	26.3304	0.1892
0.155	26.9149	9.9936	0.0861	0.3713	26.7161	0.1896
0.16	26.8131	9.7931	0.0871	0.3652	27.0898	0.1901
0.17	26.6165	9.4296	0.0891	0.3543	27.8417	0.1909
0.175	26.5287	9.2651	0.0902	0.3492	28.2185	0.1913
0.185	26.3603	8.9539	0.0921	0.3397	28.9429	0.1921
0.19	26.2775	8.8101	0.0931	0.3353	29.3038	0.1925
0.2	26.1239	8.5461	0.095	0.3271	30.0284	0.1931
0.205	26.0471	8.423	0.096	0.3234	30.3891	0.1935
0.215	25.9044	8.1898	0.0979	0.3162	31.0912	0.1941
0.225	25.7717	7.9731	0.0998	0.3094	31.7731	0.1947
0.235	25.6401	7.7866	0.1018	0.3037	32.5056	0.1953
0.245	25.5104	7.598	0.1035	0.2978	33.1655	0.1959
0.255	25.3816	7.4246	0.1053	0.2925	33.8294	0.1964
0.265	25.258	7.2522	0.1069	0.2871	34.4361	0.197
0.275	25.1411	7.0847	0.1083	0.2818	35.0041	0.1975
0.29	24.9847	6.8407	0.1103	0.2738	35.7719	0.1982
0.3	24.8956	6.6823	0.1115	0.2684	36.2259	0.1987
0.315	24.7839	6.4655	0.1133	0.2609	36.9037	0.1992
0.325	24.7117	6.3368	0.1145	0.2564	37.3819	0.1996
0.34	24.6058	6.1603	0.1165	0.2504	38.1139	0.2001
0.355	24.4979	5.9844	0.1181	0.2443	38.7579	0.2006
0.37	24.4044	5.8227	0.1198	0.2386	39.392	0.201
0.385	24.3155	5.662	0.1212	0.2329	39.9436	0.2015
0.405	24.2156	5.4605	0.123	0.2255	40.6229	0.2019
0.42	24.1494	5.3211	0.1243	0.2203	41.1199	0.2023
0.44	24.0725	5.1469	0.1259	0.2138	41.7488	0.2027
0.455	24.0237	5.0247	0.1271	0.2092	42.1991	0.2029
0.475	23.9674	4.8761	0.1288	0.2034	42.8138	0.2032

0.495	23.9211	4.742	0.1305	0.1982	43.4424	0.2035
0.52	23.8785	4.5914	0.1328	0.1923	44.2395	0.2037
0.54	23.8467	4.4844	0.1347	0.188	44.9086	0.2039
0.565	23.8174	4.3697	0.1373	0.1835	45.8239	0.2041
0.585	23.7962	4.2896	0.1395	0.1803	46.6032	0.2042
0.61	23.7683	4.2072	0.1427	0.177	47.6964	0.2043
0.64	23.7266	4.1277	0.1469	0.174	49.1463	0.2045
0.665	23.6846	4.0677	0.1504	0.1717	50.3733	0.2047
0.695	23.6287	4.0008	0.1546	0.1693	51.8456	0.205
0.725	23.574	3.9373	0.1587	0.167	53.2925	0.2053
0.755	23.5151	3.8997	0.1637	0.1658	55.0387	0.2055
0.785	23.4674	3.8161	0.1666	0.1626	56.0628	0.2058
0.82	23.4115	3.747	0.1709	0.1601	57.5774	0.206
0.855	23.3624	3.6845	0.1752	0.1577	59.1	0.2063
0.895	23.3161	3.6195	0.1801	0.1552	60.8395	0.2065
0.93	23.2848	3.5694	0.1846	0.1533	62.3916	0.2066
0.97	23.256	3.526	0.1902	0.1516	64.3277	0.2068
1.015	23.2232	3.495	0.1973	0.1505	66.7699	0.2069
1.055	23.1887	3.4731	0.2037	0.1498	69.0187	0.2071
1.1	23.145	3.4521	0.2112	0.1492	71.5976	0.2073
1.15	23.0975	3.4325	0.2195	0.1486	74.5034	0.2075
1.195	23.0577	3.4142	0.2269	0.1481	77.0747	0.2077
1.25	23.0119	3.3969	0.2361	0.1476	80.295	0.2079
1.3	22.9736	3.3802	0.2444	0.1471	83.1676	0.2081
1.36	22.9326	3.363	0.2543	0.1466	86.6406	0.2083
1.415	22.9007	3.3513	0.2637	0.1463	89.8939	0.2084
1.475	22.8718	3.3396	0.2739	0.146	93.4403	0.2085
1.54	22.8454	3.3352	0.2856	0.146	97.4845	0.2087
1.605	22.8197	3.3395	0.298	0.1463	101.7864	0.2088
1.675	22.7949	3.3525	0.3123	0.1471	106.6938	0.2089
1.745	22.7653	3.3764	0.3276	0.1483	112.0135	0.209
1.82	22.7207	3.407	0.3448	0.1499	117.9943	0.2092
1.9	22.6711	3.437	0.3631	0.1516	124.3932	0.2094
1.98	22.6271	3.4672	0.3817	0.1532	130.8918	0.2096
2.065	22.5836	3.5006	0.402	0.155	137.9474	0.2098
2.155	22.5438	3.544	0.4247	0.1572	145.8602	0.21
2.25	22.5035	3.5913	0.4493	0.1596	154.4463	0.2101
2.345	22.4709	3.6472	0.4756	0.1623	163.5754	0.2103
2.445	22.4288	3.7128	0.5048	0.1655	173.7584	0.2104
2.55	22.3752	3.7775	0.5356	0.1688	184.5745	0.2107
2.66	22.3152	3.8277	0.5662	0.1715	195.3342	0.2109
2.775	22.26	3.8758	0.5981	0.1741	206.5727	0.2112
2.89	22.2093	3.9316	0.6318	0.177	218.4536	0.2114
3.015	22.1496	4.0064	0.6717	0.1809	232.5143	0.2116
3.145	22.0912	4.1015	0.7173	0.1857	248.5697	0.2119
3.28	22.0377	4.2105	0.768	0.1911	266.3887	0.2121
3.42	21.9945	4.3198	0.8215	0.1964	285.1776	0.2122
3.57	21.968	4.4242	0.8783	0.2014	304.9872	0.2123
3.72	21.9364	4.5059	0.9321	0.2054	323.8362	0.2124
3.88	21.8736	4.5731	0.9867	0.2091	343.2351	0.2127
4.045	21.7677	4.6527	1.0465	0.2137	364.8557	0.2131

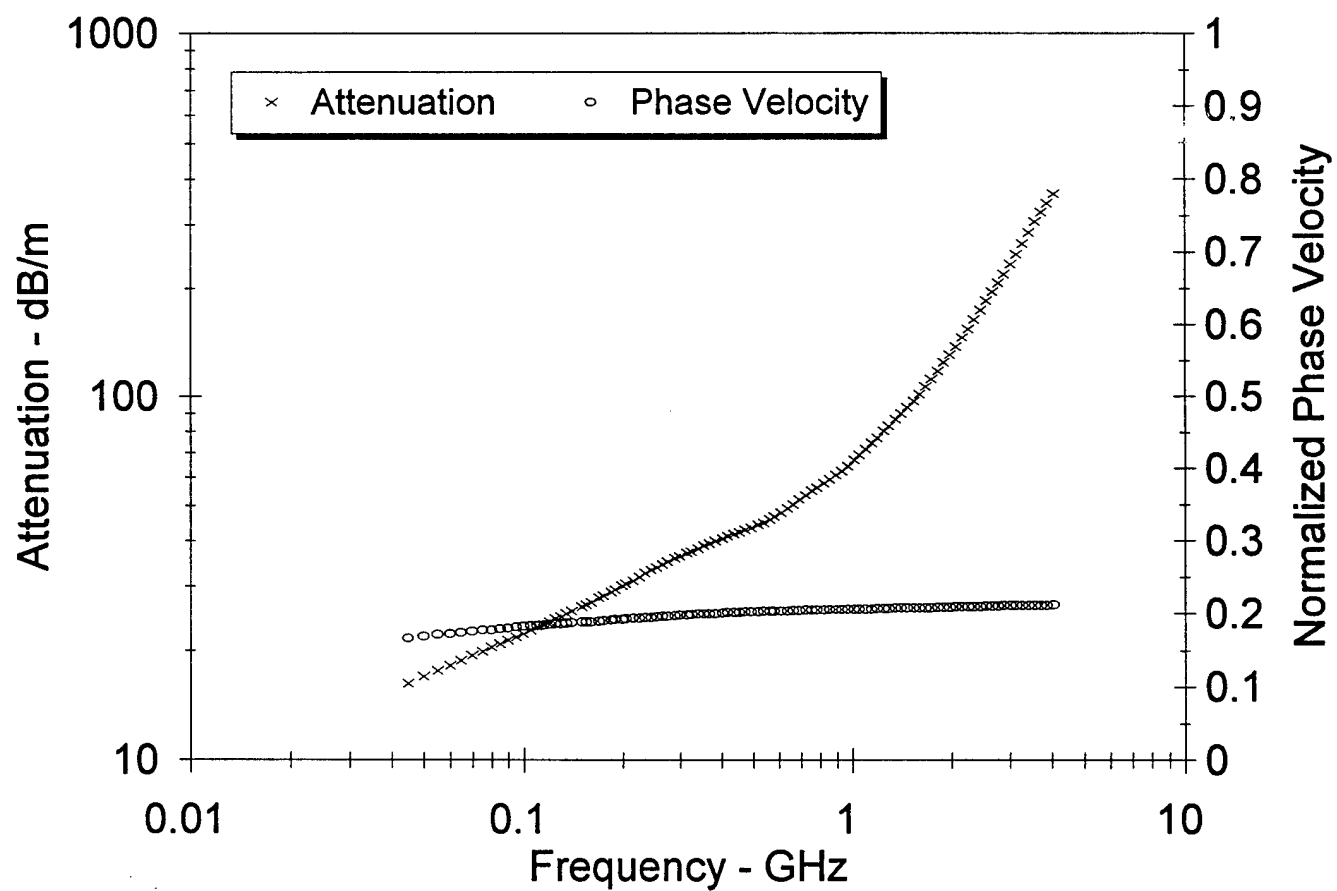
SB27.5E73N , File: 6SP61622  
20 deg C, Mv = 41.0%, 1.280 g/cc (dry)



SB27.5E73N , File: 6SP61622  
20 deg C, Mv = 41.0%, 1.280 g/cc (dry)



SB27.5E73N , File: 6SP61622  
20 deg C, Mv = 41.0%, 1.280 g/cc (dry)





6SP61631  
TC27.5E73N

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1.32

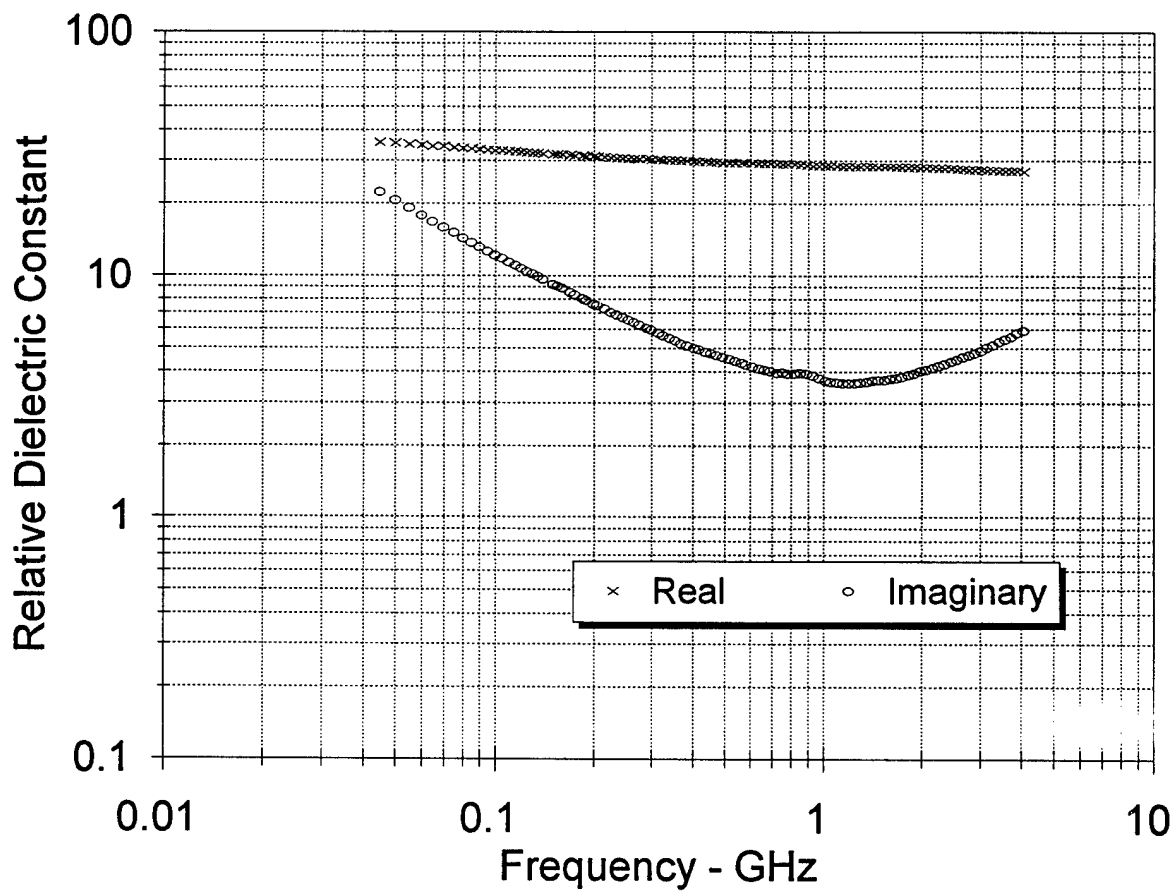
TC27.5E73N , File: 6SP61631

20 deg C, Mv = 46.3%, 1.320 g/cc (dry)

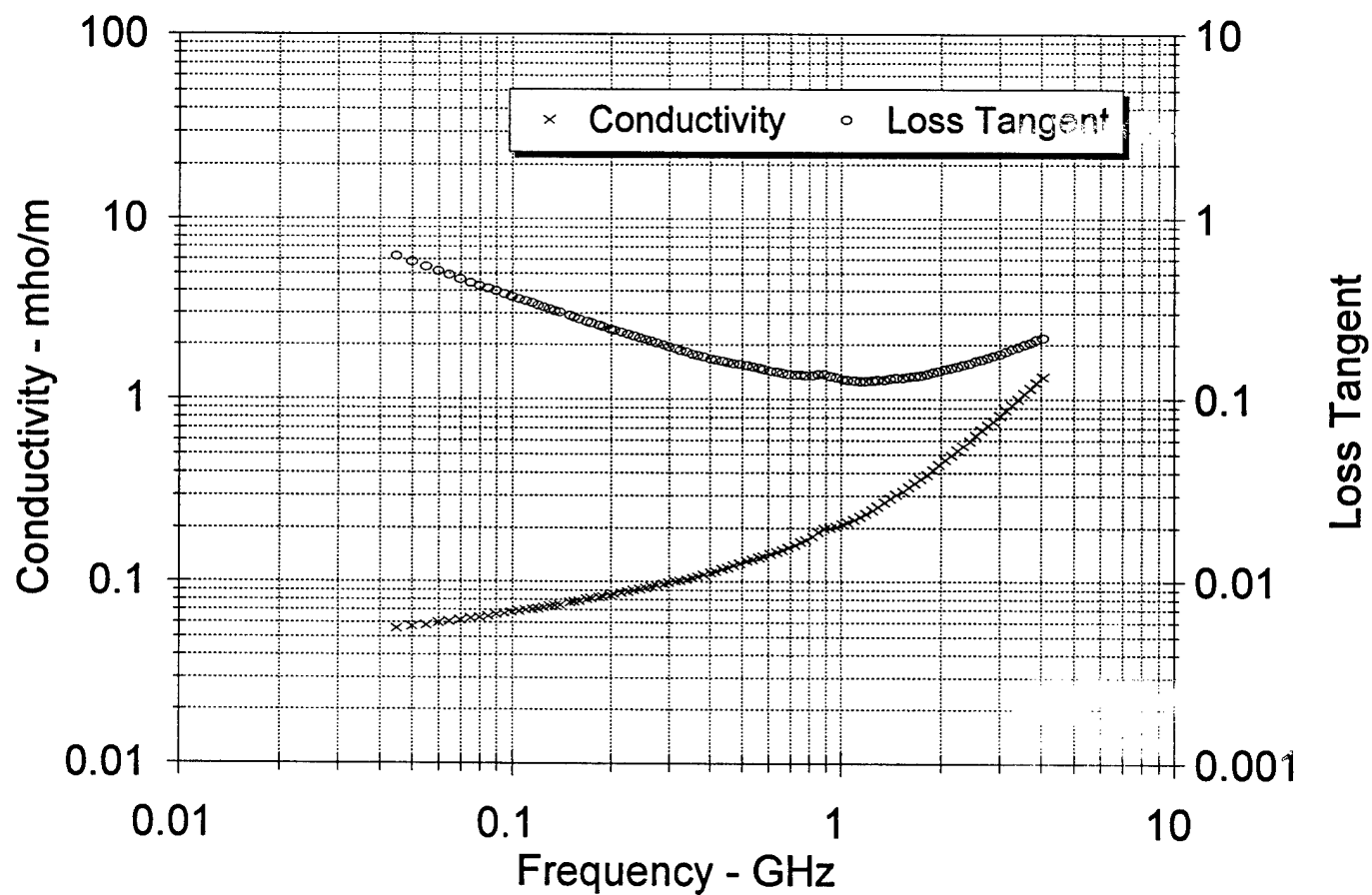
0.045	35.6953	22.1691	0.0555	0.6211	14.5569	0.1604
0.05	35.3541	20.4143	0.0568	0.5774	15.0434	0.162
0.055	34.9911	18.979	0.058	0.5424	15.5256	0.1635
0.06	34.7045	17.7712	0.0593	0.5121	15.9775	0.1647
0.065	34.4528	16.7228	0.0604	0.4854	16.3933	0.1658
0.07	34.1792	15.8101	0.0615	0.4626	16.7964	0.1669
0.075	33.9436	15.0245	0.0627	0.4426	17.1947	0.1678
0.08	33.7301	14.3328	0.0638	0.4249	17.5815	0.1686
0.085	33.5396	13.7089	0.0648	0.4087	17.9448	0.1693
0.09	33.3431	13.151	0.0658	0.3944	18.3041	0.17
0.095	33.1735	12.647	0.0668	0.3812	18.6495	0.1707
0.1	33.0038	12.1827	0.0677	0.3691	18.9783	0.1713
0.105	32.8546	11.7677	0.0687	0.3582	19.3096	0.1718
0.11	32.7216	11.3958	0.0697	0.3483	19.6454	0.1723
0.115	32.5819	11.038	0.0706	0.3388	19.951	0.1728
0.12	32.454	10.7016	0.0714	0.3297	20.2377	0.1733
0.125	32.3367	10.4163	0.0724	0.3221	20.5681	0.1737
0.13	32.2182	10.1365	0.0733	0.3146	20.866	0.1741
0.135	32.1102	9.8798	0.0742	0.3077	21.166	0.1745
0.14	32.0078	9.6312	0.075	0.3009	21.4421	0.1748
0.15	31.8197	9.1985	0.0767	0.2891	22.0242	0.1755
0.155	31.735	8.9972	0.0775	0.2835	22.2985	0.1758
0.16	31.6361	8.7998	0.0783	0.2782	22.556	0.1761
0.17	31.4785	8.4545	0.0799	0.2686	23.0972	0.1767
0.175	31.3995	8.2895	0.0807	0.264	23.3487	0.1769
0.185	31.2603	7.9854	0.0821	0.2554	23.8428	0.1774
0.19	31.1984	7.8437	0.0829	0.2514	24.0822	0.1777
0.2	31.0804	7.5838	0.0843	0.244	24.5672	0.1781
0.205	31.0248	7.4663	0.0851	0.2407	24.8182	0.1783
0.215	30.9194	7.239	0.0865	0.2341	25.2887	0.1786
0.225	30.8318	7.0321	0.088	0.2281	25.7538	0.1789
0.235	30.7359	6.8525	0.0895	0.2229	26.2594	0.1793
0.245	30.6505	6.6739	0.0909	0.2177	26.7079	0.1796
0.255	30.5663	6.5155	0.0924	0.2132	27.1821	0.1799
0.265	30.4857	6.3678	0.0938	0.2089	27.6502	0.1801
0.275	30.4125	6.2281	0.0952	0.2048	28.1038	0.1804
0.29	30.3044	6.0309	0.0973	0.199	28.7576	0.1808
0.3	30.2403	5.9008	0.0984	0.1951	29.1435	0.181
0.315	30.1601	5.7194	0.1002	0.1896	29.7071	0.1813
0.325	30.1111	5.6078	0.1013	0.1862	30.0812	0.1815
0.34	30.0487	5.4556	0.1031	0.1816	30.6535	0.1817
0.355	29.9883	5.3213	0.105	0.1774	31.2554	0.1819
0.37	29.9341	5.2044	0.1071	0.1739	31.8939	0.1821
0.385	29.8797	5.0962	0.1091	0.1706	32.5313	0.1823
0.405	29.8123	4.974	0.112	0.1668	33.4434	0.1825
0.42	29.7599	4.894	0.1143	0.1645	34.1579	0.1827
0.44	29.6926	4.7989	0.1174	0.1616	35.1325	0.1829
0.455	29.6432	4.7344	0.1198	0.1597	35.8747	0.1831
0.475	29.5723	4.6595	0.1231	0.1576	36.9061	0.1833

0.495	29.5021	4.5884	0.1263	0.1555	37.9212	0.1836
0.52	29.416	4.4955	0.13	0.1528	39.0907	0.1838
0.54	29.3556	4.4194	0.1327	0.1505	39.9512	0.184
0.565	29.2945	4.3294	0.136	0.1478	40.9964	0.1843
0.585	29.251	4.2621	0.1386	0.1457	41.822	0.1844
0.61	29.2042	4.1842	0.1419	0.1433	42.8505	0.1846
0.64	29.156	4.1069	0.1462	0.1409	44.168	0.1847
0.665	29.1169	4.0519	0.1498	0.1392	45.3118	0.1849
0.695	29.0739	3.9951	0.1544	0.1374	46.7293	0.185
0.725	29.042	3.9513	0.1593	0.1361	48.2408	0.1851
0.755	28.9996	3.9545	0.166	0.1364	50.3137	0.1853
0.785	28.9749	3.9147	0.1709	0.1351	51.81	0.1854
0.82	28.9267	3.9149	0.1785	0.1353	54.1673	0.1855
0.855	28.8476	3.9457	0.1876	0.1368	56.9989	0.1858
0.895	28.6823	3.9261	0.1954	0.1369	59.5401	0.1863
0.93	28.5806	3.8363	0.1984	0.1342	60.5657	0.1866
0.97	28.5251	3.741	0.2018	0.1311	61.6685	0.1868
1.015	28.4916	3.6648	0.2068	0.1286	63.2575	0.187
1.055	28.4756	3.6136	0.212	0.1269	64.8538	0.187
1.1	28.4649	3.5823	0.2191	0.1258	67.0482	0.1871
1.15	28.4473	3.574	0.2285	0.1256	69.9552	0.1871
1.195	28.4263	3.5696	0.2372	0.1256	72.6307	0.1872
1.25	28.4071	3.5756	0.2485	0.1259	76.1267	0.1873
1.3	28.3855	3.593	0.2597	0.1266	79.586	0.1873
1.36	28.3541	3.6274	0.2743	0.1279	84.0971	0.1874
1.415	28.312	3.6681	0.2886	0.1296	88.5413	0.1875
1.475	28.2447	3.6869	0.3024	0.1305	92.8779	0.1878
1.54	28.2117	3.6887	0.3159	0.1307	97.0728	0.1879
1.605	28.1887	3.7215	0.3321	0.132	102.1081	0.1879
1.675	28.1525	3.767	0.3509	0.1338	107.9277	0.1881
1.745	28.1144	3.8073	0.3694	0.1354	113.7121	0.1882
1.82	28.0772	3.8525	0.3899	0.1372	120.0787	0.1883
1.9	28.0479	3.9187	0.414	0.1397	127.5678	0.1884
1.98	28.0046	4.0018	0.4406	0.1429	135.8471	0.1885
2.065	27.9305	4.0718	0.4675	0.1458	144.3316	0.1887
2.155	27.8762	4.1282	0.4947	0.1481	152.847	0.1889
2.25	27.832	4.2011	0.5256	0.1509	162.5125	0.189
2.345	27.7886	4.2846	0.5587	0.1542	172.8551	0.1891
2.445	27.7404	4.372	0.5944	0.1576	184.0396	0.1893
2.55	27.6884	4.472	0.6341	0.1615	196.4852	0.1894
2.66	27.6217	4.5645	0.6752	0.1653	209.4248	0.1896
2.775	27.5608	4.6496	0.7175	0.1687	222.7637	0.1898
2.89	27.5206	4.7416	0.762	0.1723	236.724	0.1899
3.015	27.47	4.8648	0.8156	0.1771	253.5613	0.1901
3.145	27.4034	5.002	0.8748	0.1825	272.2197	0.1902
3.28	27.3243	5.1332	0.9362	0.1879	291.7044	0.1905
3.42	27.2485	5.2626	1.0008	0.1931	312.1786	0.1907
3.57	27.1787	5.4034	1.0726	0.1988	334.9236	0.1909
3.72	27.106	5.5504	1.1481	0.2048	358.8715	0.1911
3.88	27.0231	5.7209	1.2343	0.2117	386.2618	0.1913
4.045	26.9258	5.8859	1.3239	0.2186	414.8952	0.1916

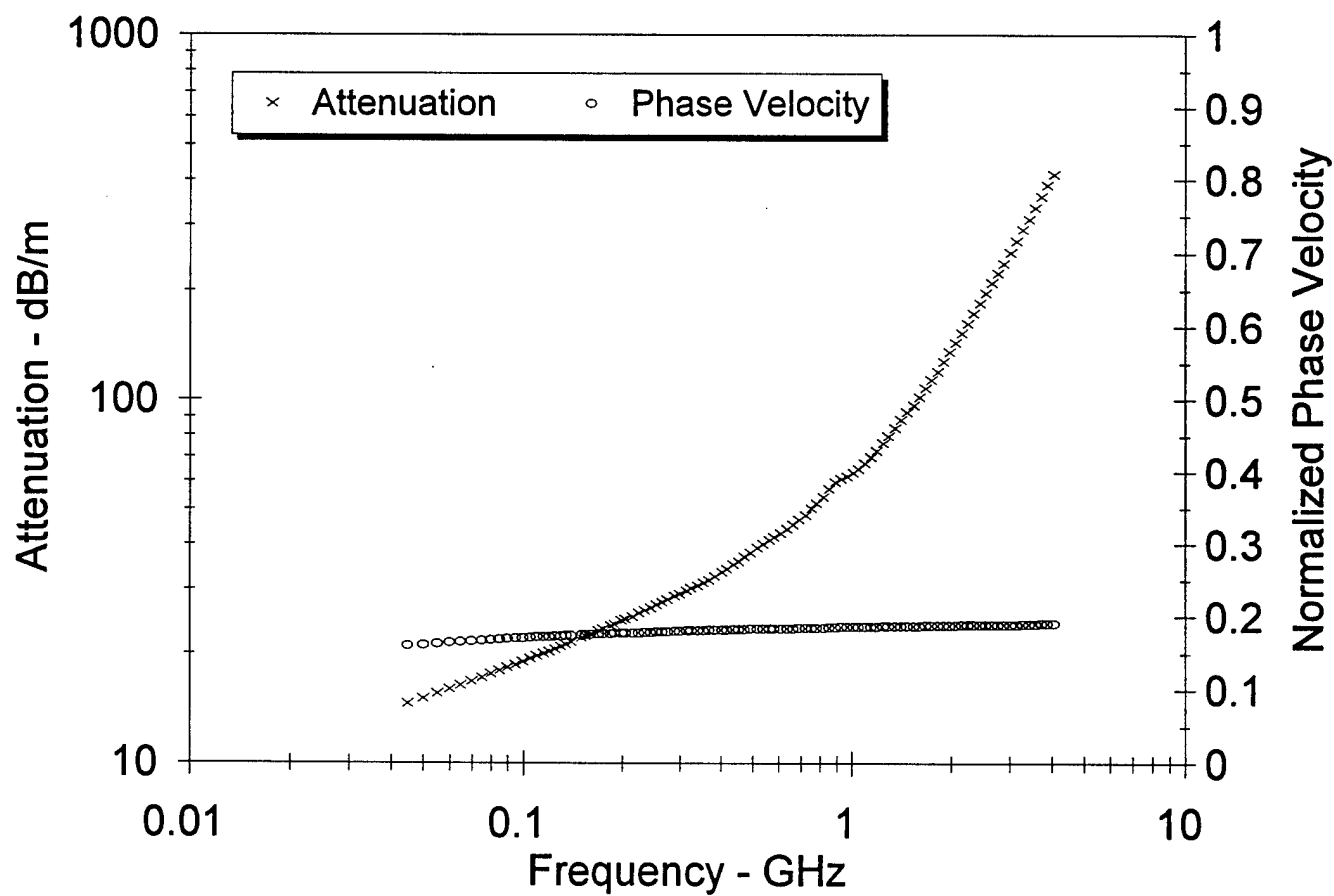
TC27.5E73N , File: 6SP61631  
20 deg C, Mv = 46.3%, 1.320 g/cc (dry)



TC27.5E73N , File: 6SP61631  
20 deg C, Mv = 46.3%, 1.320 g/cc (dry)



TC27.5E73N , File: 6SP61631  
20 deg C, Mv = 46.3%, 1.320 g/cc (dry)



6SP61649  
TC40E23N

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TC40E23N , File: 6SP61649

46.9

20 deg C, Mv = 46.9%, 1.360 g/cc (dry)

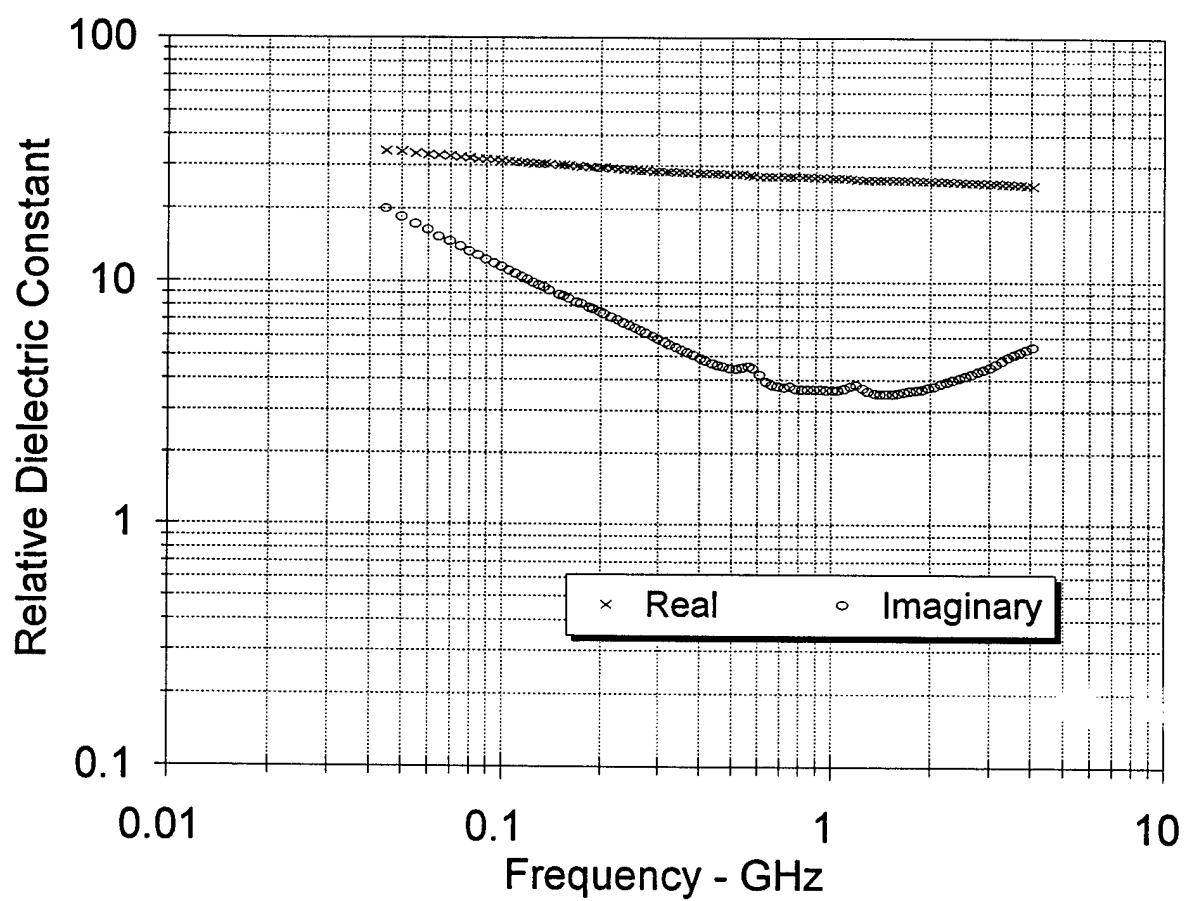
20

1.36

0.045	34.4178	19.877	0.0497	0.5775	13.3607	0.1642
0.05	33.9899	18.4153	0.0512	0.5418	13.8962	0.1659
0.055	33.5058	17.245	0.0527	0.5147	14.4603	0.1676
0.06	33.2122	16.2683	0.0543	0.4898	14.9864	0.1688
0.065	32.8729	15.308	0.0553	0.4657	15.3936	0.1701
0.07	32.5922	14.5629	0.0567	0.4468	15.8681	0.1711
0.075	32.3187	13.8951	0.0579	0.4299	16.3168	0.1721
0.08	32.0848	13.2777	0.0591	0.4138	16.7169	0.173
0.085	31.885	12.8083	0.0605	0.4017	17.2063	0.1738
0.09	31.6441	12.294	0.0615	0.3885	17.5739	0.1746
0.095	31.4655	11.8611	0.0627	0.377	17.9656	0.1753
0.1	31.3047	11.4793	0.0638	0.3667	18.3652	0.1759
0.105	31.1239	11.1058	0.0648	0.3568	18.7255	0.1765
0.11	31.0099	10.7831	0.066	0.3477	19.0961	0.177
0.115	30.8512	10.48	0.067	0.3397	19.4652	0.1776
0.12	30.7049	10.1889	0.068	0.3318	19.8063	0.1781
0.125	30.5992	9.948	0.0691	0.3251	20.1889	0.1785
0.13	30.4686	9.6887	0.07	0.318	20.5037	0.179
0.135	30.3613	9.4716	0.0711	0.312	20.8612	0.1794
0.14	30.258	9.2627	0.0721	0.3061	21.2017	0.1797
0.15	30.0722	8.884	0.0741	0.2954	21.8711	0.1804
0.155	29.9804	8.711	0.0751	0.2906	22.2014	0.1808
0.16	29.8855	8.5407	0.076	0.2858	22.5125	0.1811
0.17	29.7336	8.2411	0.0779	0.2772	23.1525	0.1817
0.175	29.6558	8.0979	0.0788	0.2731	23.4562	0.182
0.185	29.514	7.8578	0.0808	0.2662	24.1297	0.1825
0.19	29.4432	7.7303	0.0817	0.2625	24.4148	0.1828
0.2	29.2945	7.5087	0.0835	0.2563	25.0358	0.1833
0.205	29.2195	7.4004	0.0844	0.2533	25.3287	0.1836
0.215	29.09	7.1841	0.0859	0.247	25.8551	0.184
0.225	28.9791	6.9861	0.0874	0.2411	26.3711	0.1844
0.235	28.8799	6.8145	0.089	0.236	26.9207	0.1848
0.245	28.769	6.6265	0.0903	0.2303	27.353	0.1852
0.255	28.6761	6.4726	0.0918	0.2257	27.8604	0.1856
0.265	28.5915	6.3161	0.0931	0.2209	28.3018	0.1859
0.275	28.5145	6.1701	0.0944	0.2164	28.7368	0.1862
0.29	28.4234	5.9863	0.0965	0.2106	29.4573	0.1865
0.3	28.329	5.8479	0.0976	0.2064	29.8243	0.1869
0.315	28.2403	5.6771	0.0994	0.201	30.4566	0.1872
0.325	28.1784	5.5638	0.1005	0.1975	30.8358	0.1875
0.34	28.1052	5.4185	0.1024	0.1928	31.4641	0.1878
0.355	28.0264	5.2766	0.1042	0.1883	32.0438	0.1881
0.37	27.9588	5.1558	0.1061	0.1844	32.6784	0.1883
0.385	27.9049	5.0316	0.1077	0.1803	33.2218	0.1885
0.405	27.8387	4.8839	0.11	0.1754	33.9697	0.1888
0.42	27.7977	4.7873	0.1118	0.1722	34.5607	0.189
0.44	27.7524	4.6681	0.1142	0.1682	35.3396	0.1892
0.455	27.7287	4.5941	0.1162	0.1657	35.9847	0.1893
0.475	27.6966	4.5099	0.1191	0.1628	36.9037	0.1894

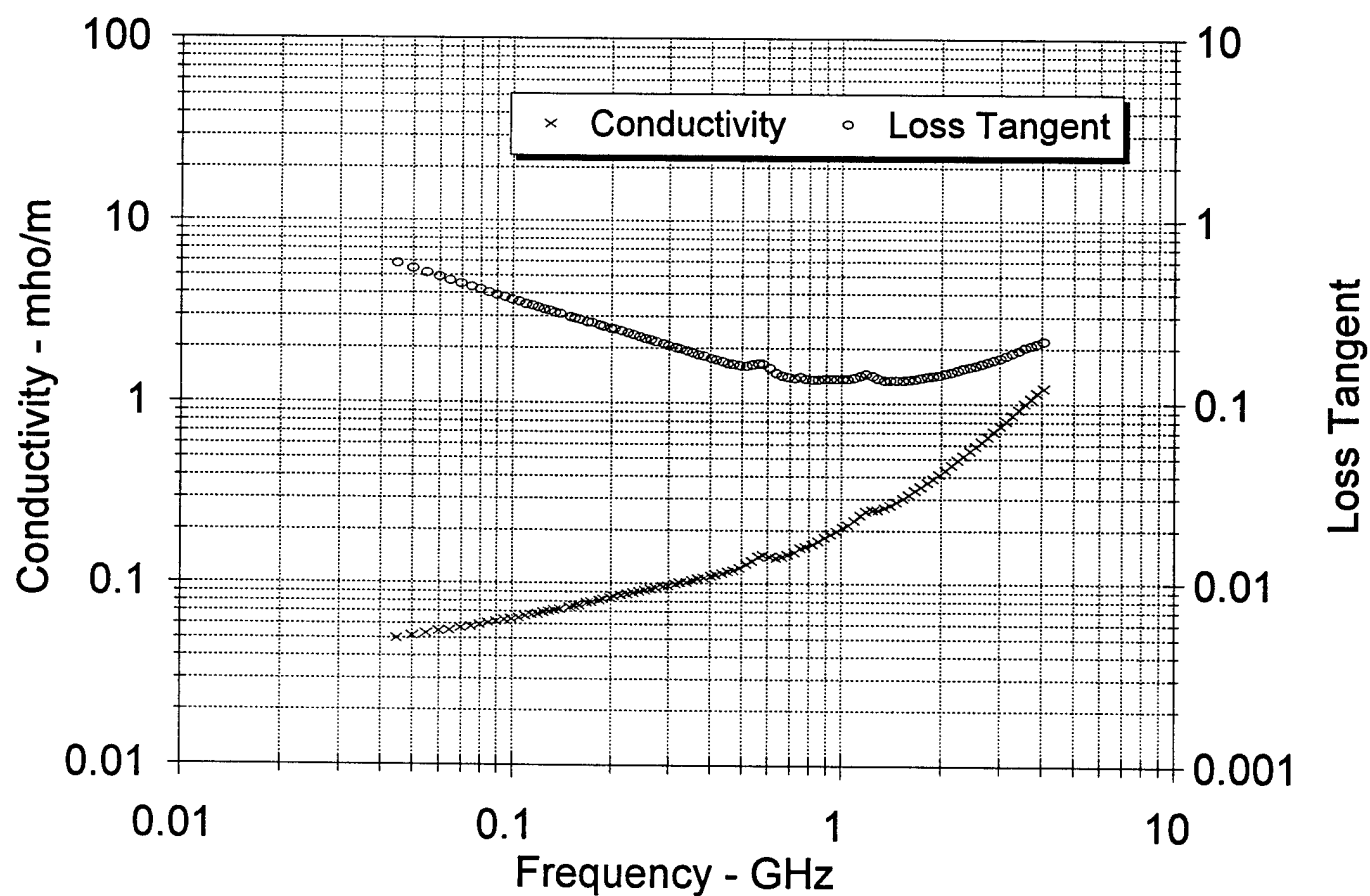
0.495	27.6791	4.4545	0.1226	0.1609	37.9994	0.1895
0.52	27.6507	4.4263	0.128	0.1601	39.6873	0.1896
0.54	27.5957	4.4577	0.1339	0.1615	41.5452	0.1897
0.565	27.3971	4.5139	0.1418	0.1648	44.1702	0.1904
0.585	27.1538	4.4404	0.1444	0.1635	45.1928	0.1913
0.61	26.9598	4.1807	0.1418	0.1551	44.5417	0.192
0.64	26.9458	3.9263	0.1397	0.1457	43.9153	0.1921
0.665	26.9647	3.8124	0.141	0.1414	44.2985	0.1921
0.695	26.9793	3.7411	0.1446	0.1387	45.4228	0.1921
0.725	26.9778	3.6975	0.1491	0.1371	46.8358	0.1921
0.755	26.9856	3.7579	0.1578	0.1393	49.5592	0.192
0.785	26.9468	3.6573	0.1596	0.1357	50.1912	0.1922
0.82	26.9147	3.6456	0.1662	0.1354	52.2922	0.1923
0.855	26.8737	3.6422	0.1732	0.1355	54.5151	0.1925
0.895	26.8232	3.6427	0.1813	0.1358	57.1261	0.1926
0.93	26.7726	3.6395	0.1882	0.1359	59.3636	0.1928
0.97	26.7207	3.6309	0.1958	0.1359	61.8321	0.193
1.015	26.6748	3.6295	0.2049	0.1361	64.7307	0.1932
1.055	26.6454	3.6351	0.2133	0.1364	67.4222	0.1933
1.1	26.6136	3.6662	0.2243	0.1378	70.9379	0.1934
1.15	26.5368	3.768	0.241	0.142	76.3208	0.1936
1.195	26.3517	3.8091	0.2531	0.1445	80.4458	0.1943
1.25	26.1788	3.687	0.2563	0.1408	81.7311	0.195
1.3	26.1441	3.578	0.2586	0.1369	82.5532	0.1951
1.36	26.1402	3.5175	0.266	0.1346	84.9145	0.1952
1.415	26.1322	3.4953	0.275	0.1338	87.8064	0.1952
1.475	26.1194	3.4935	0.2865	0.1338	91.5069	0.1952
1.54	26.0999	3.5032	0.3	0.1342	95.8377	0.1953
1.605	26.0783	3.5256	0.3147	0.1352	100.5612	0.1954
1.675	26.051	3.5542	0.331	0.1364	105.8478	0.1955
1.745	26.0184	3.5896	0.3483	0.138	111.4355	0.1956
1.82	25.9726	3.6268	0.367	0.1396	117.5241	0.1957
1.9	25.9438	3.6564	0.3863	0.1409	123.7557	0.1958
1.98	25.9282	3.7045	0.4079	0.1429	130.6928	0.1959
2.065	25.9038	3.7714	0.4331	0.1456	138.818	0.196
2.155	25.8684	3.8488	0.4612	0.1488	147.9233	0.1961
2.25	25.8099	3.9212	0.4906	0.1519	157.5118	0.1963
2.345	25.7494	3.9945	0.5209	0.1551	167.4058	0.1965
2.445	25.6819	4.0588	0.5518	0.158	177.5665	0.1967
2.55	25.6329	4.1253	0.585	0.1609	188.3867	0.1969
2.66	25.5833	4.2037	0.6218	0.1643	200.4154	0.197
2.775	25.5388	4.2966	0.663	0.1682	213.8503	0.1972
2.89	25.4972	4.3884	0.7052	0.1721	227.6209	0.1973
3.015	25.4543	4.4959	0.7537	0.1766	243.4401	0.1974
3.145	25.41	4.6221	0.8083	0.1819	261.2296	0.1976
3.28	25.3484	4.7716	0.8703	0.1882	281.5157	0.1976
3.42	25.2517	4.928	0.9372	0.1952	303.6371	0.1981
3.57	25.1275	5.0681	1.0061	0.2017	326.6678	0.1985
3.72	25.0183	5.1801	1.0715	0.2071	348.5785	0.1989
3.88	24.9206	5.3006	1.1436	0.2127	372.6512	0.1992
4.045	24.8201	5.4342	1.2223	0.2189	398.9695	0.1995

TC40E23N , File: 6SP61649  
20 deg C, Mv = 46.9%, 1.360 g/cc (dry)

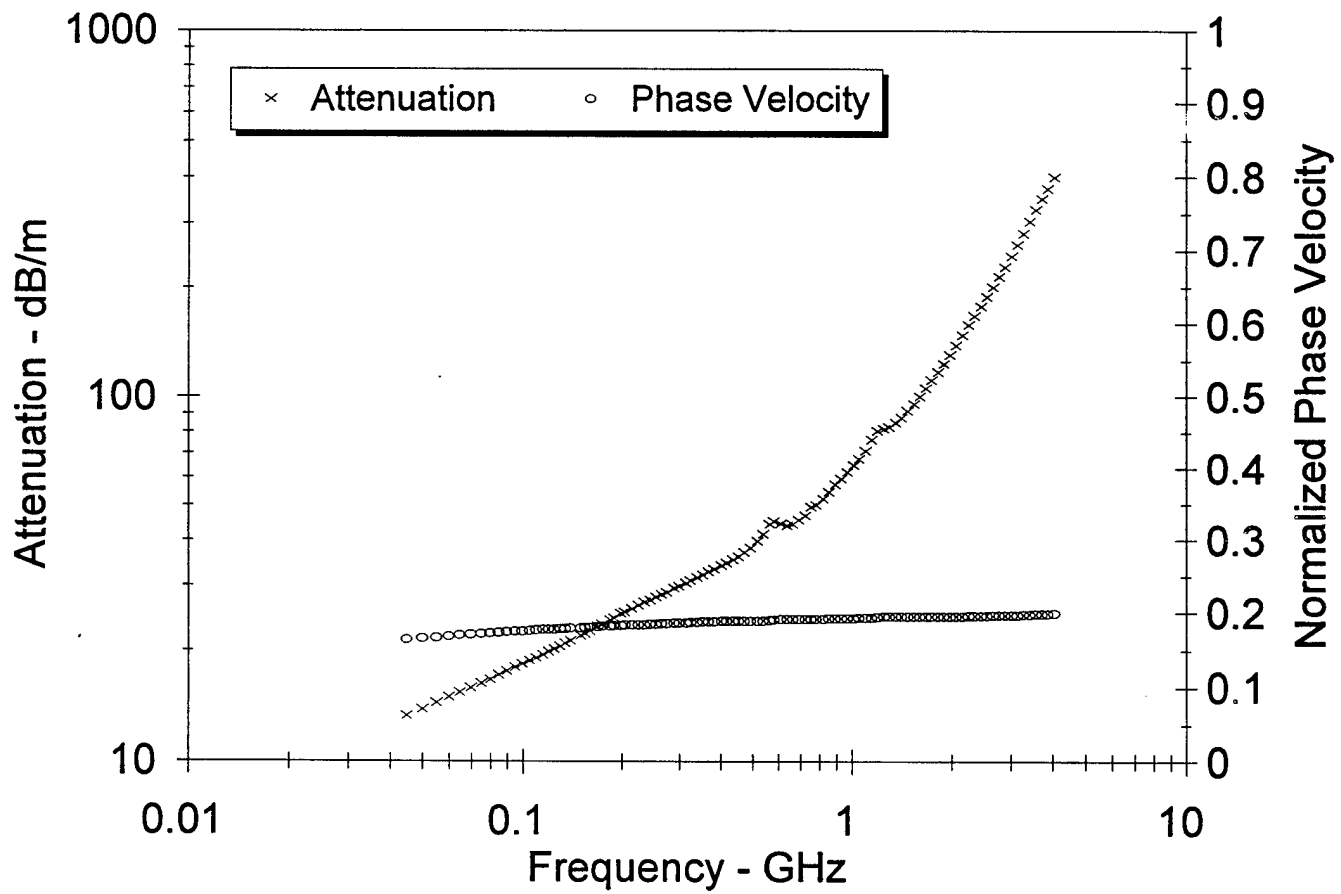




TC40E23N , File: 6SP61649  
20 deg C, Mv = 46.9%, 1.360 g/cc (dry)



TC40E23N , File: 6SP61649  
20 deg C, Mv = 46.9%, 1.360 g/cc (dry)



6SP61654  
SB77.5E60.5N

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45.8

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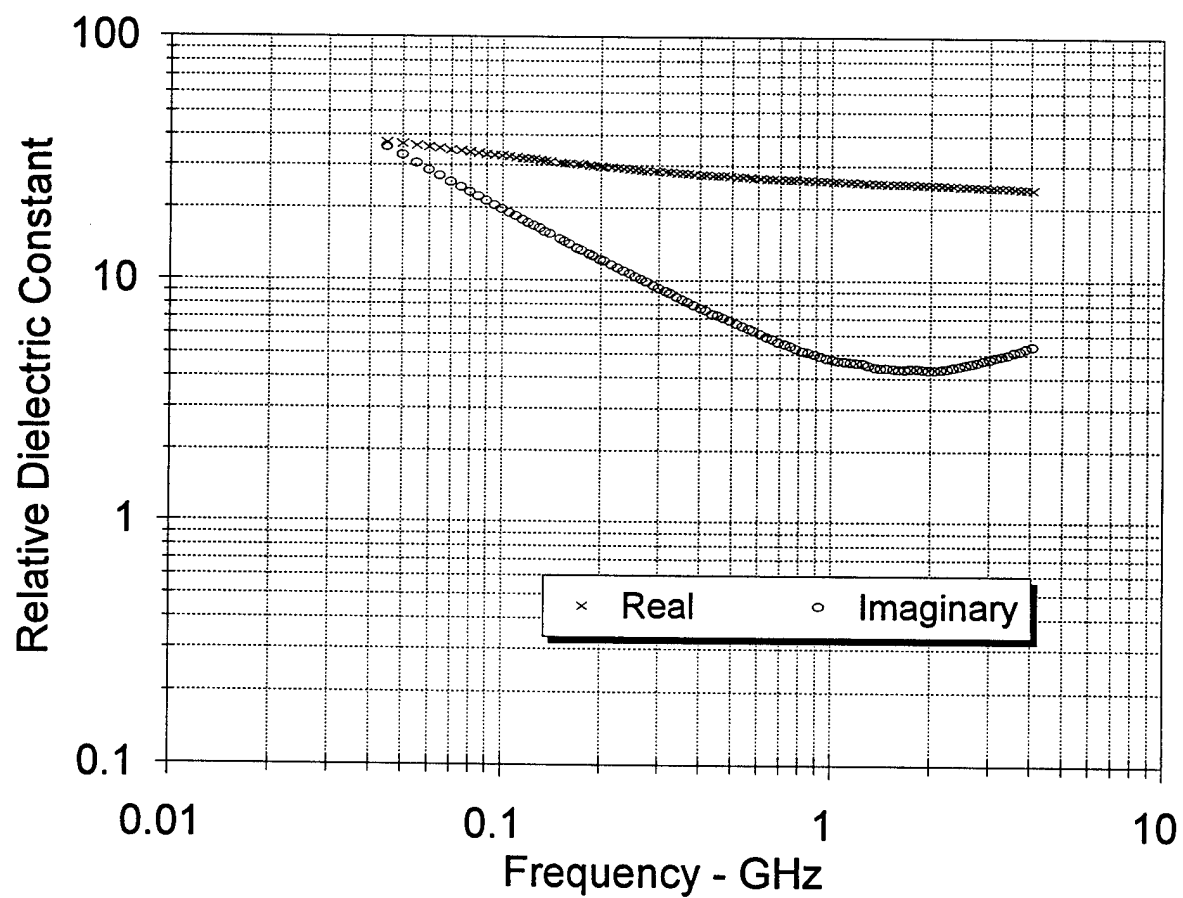
1.33

SB77.5E60.5N , File: 6SP61654  
20 deg C, Mv = 45.8%, 1.330 g/cc (dry)

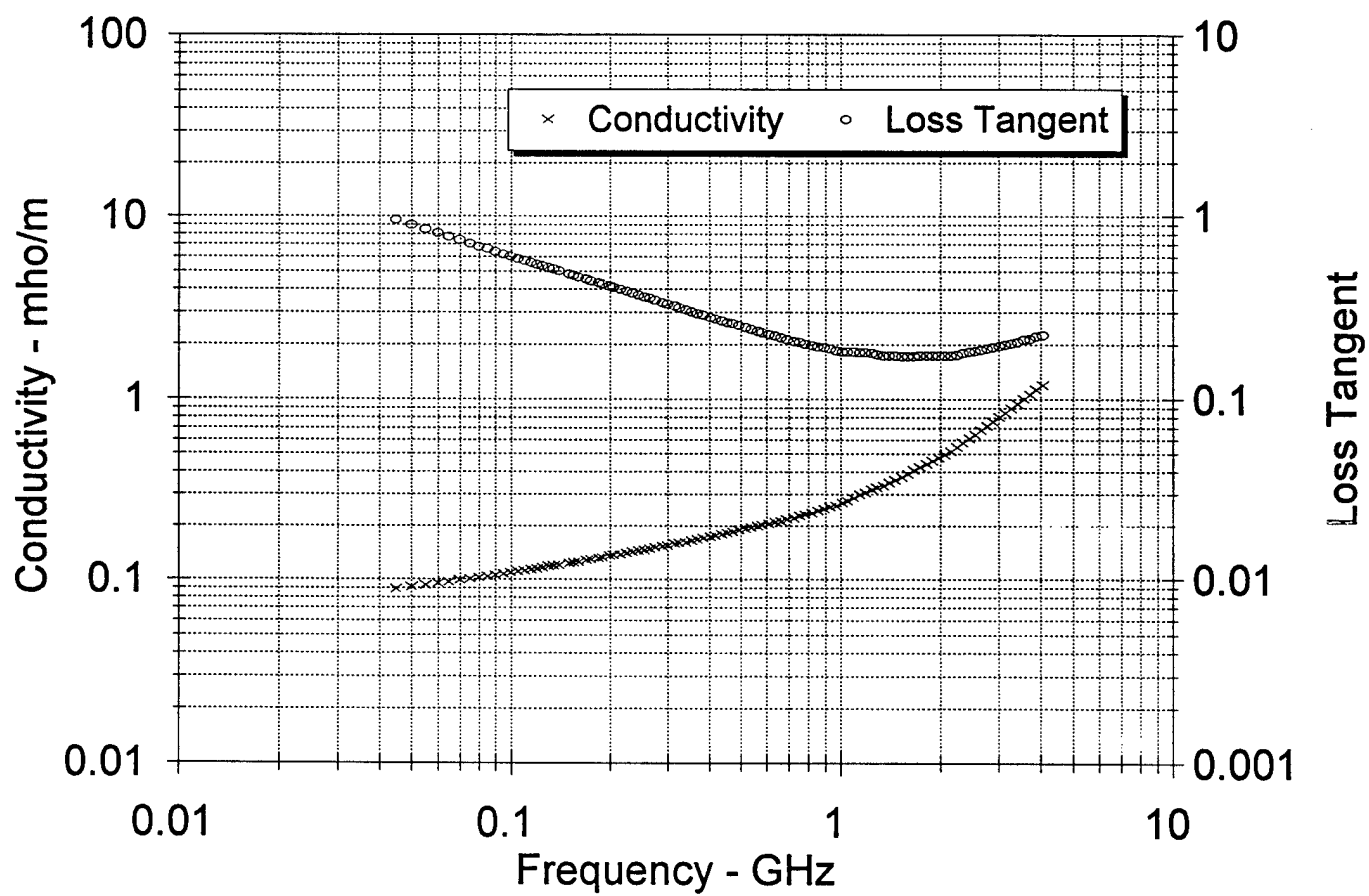
0.045	37.225	35.5575	0.089	0.9552	21.854	0.1502
0.05	36.5983	32.7868	0.0912	0.8959	22.7744	0.1527
0.055	36.0074	30.4847	0.0932	0.8466	23.647	0.1551
0.06	35.5165	28.5675	0.0953	0.8043	24.4839	0.157
0.065	35.0604	26.879	0.0972	0.7666	25.2474	0.1589
0.07	34.6382	25.4597	0.0991	0.735	26.0198	0.1605
0.075	34.2435	24.185	0.1009	0.7063	26.7352	0.162
0.08	33.8702	23.0496	0.1025	0.6805	27.4187	0.1635
0.085	33.5414	22.0714	0.1043	0.658	28.1121	0.1647
0.09	33.2371	21.1782	0.106	0.6372	28.7659	0.1659
0.095	32.9564	20.361	0.1076	0.6178	29.3856	0.167
0.1	32.6706	19.6327	0.1092	0.6009	30.0167	0.1681
0.105	32.422	18.9393	0.1106	0.5842	30.5812	0.1691
0.11	32.2042	18.3616	0.1123	0.5702	31.2156	0.1699
0.115	31.9801	17.7815	0.1137	0.556	31.7653	0.1708
0.12	31.7595	17.2586	0.1152	0.5434	32.329	0.1716
0.125	31.5755	16.774	0.1166	0.5312	32.8701	0.1723
0.13	31.3935	16.3229	0.118	0.5199	33.4029	0.1731
0.135	31.2192	15.9027	0.1194	0.5094	33.9275	0.1737
0.14	31.0515	15.5054	0.1207	0.4993	34.4343	0.1744
0.15	30.7473	14.7901	0.1234	0.481	35.4331	0.1756
0.155	30.5992	14.4663	0.1247	0.4728	35.9294	0.1762
0.16	30.4602	14.1512	0.1259	0.4646	36.3932	0.1767
0.17	30.1939	13.5846	0.1284	0.4499	37.3373	0.1777
0.175	30.0725	13.3163	0.1296	0.4428	37.7783	0.1782
0.185	29.841	12.8268	0.132	0.4298	38.6657	0.1791
0.19	29.7358	12.5952	0.1331	0.4236	39.0857	0.1796
0.2	29.5348	12.1695	0.1353	0.412	39.9301	0.1804
0.205	29.4395	11.97	0.1364	0.4066	40.3423	0.1807
0.215	29.2596	11.5889	0.1385	0.3961	41.1278	0.1815
0.225	29.1067	11.2386	0.1406	0.3861	41.8859	0.1821
0.235	28.9499	10.9289	0.1428	0.3775	42.6886	0.1827
0.245	28.8096	10.6173	0.1446	0.3685	43.374	0.1833
0.255	28.6705	10.3448	0.1467	0.3608	44.1206	0.1839
0.265	28.5482	10.0812	0.1486	0.3531	44.8063	0.1844
0.275	28.4344	9.8368	0.1504	0.3459	45.4868	0.1849
0.29	28.2774	9.4992	0.1532	0.3359	46.4865	0.1855
0.3	28.1784	9.29	0.155	0.3297	47.1357	0.1859
0.315	28.0396	8.9963	0.1576	0.3208	48.0782	0.1865
0.325	27.9551	8.8086	0.1592	0.3151	48.6633	0.1869
0.34	27.8413	8.5556	0.1618	0.3073	49.5762	0.1874
0.355	27.729	8.3108	0.1641	0.2997	50.411	0.1879
0.37	27.6333	8.1018	0.1667	0.2932	51.3318	0.1883
0.385	27.5398	7.9006	0.1691	0.2869	52.1975	0.1887
0.405	27.4228	7.6603	0.1725	0.2793	53.3789	0.1892
0.42	27.339	7.4955	0.1751	0.2742	54.2661	0.1895
0.44	27.2307	7.2953	0.1785	0.2679	55.4645	0.19
0.455	27.1528	7.1572	0.1811	0.2636	56.3656	0.1903
0.475	27.0508	6.9862	0.1845	0.2583	57.5646	0.1907

0.495	26.9511	6.8249	0.1879	0.2532	58.7292	0.1911
0.52	26.8353	6.6349	0.1918	0.2472	60.1287	0.1916
0.54	26.7478	6.4874	0.1948	0.2425	61.17	0.192
0.565	26.6501	6.313	0.1983	0.2369	62.416	0.1924
0.585	26.58	6.1829	0.2011	0.2326	63.3922	0.1927
0.61	26.4995	6.0321	0.2046	0.2276	64.6047	0.193
0.64	26.4088	5.8626	0.2086	0.222	66.0103	0.1934
0.665	26.3407	5.7304	0.2119	0.2176	67.1451	0.1937
0.695	26.2711	5.5876	0.2159	0.2127	68.533	0.194
0.725	26.2084	5.4595	0.2201	0.2083	69.9518	0.1943
0.755	26.1444	5.377	0.2257	0.2057	71.8422	0.1946
0.785	26.0976	5.2511	0.2292	0.2012	73.0295	0.1948
0.82	26.0334	5.1508	0.2349	0.1979	74.9328	0.195
0.855	25.9683	5.0629	0.2407	0.195	76.904	0.1953
0.895	25.8939	4.9705	0.2474	0.192	79.1578	0.1956
0.93	25.8339	4.8882	0.2528	0.1892	80.9951	0.1959
0.97	25.7835	4.8008	0.2589	0.1862	83.0616	0.1961
1.015	25.7418	4.7303	0.267	0.1838	85.7163	0.1963
1.055	25.7018	4.6876	0.275	0.1824	88.3659	0.1964
1.1	25.6427	4.6549	0.2847	0.1815	91.6004	0.1967
1.15	25.5712	4.6264	0.2958	0.1809	95.3139	0.197
1.195	25.4998	4.601	0.3057	0.1804	98.6399	0.1972
1.25	25.4025	4.5573	0.3168	0.1794	102.3983	0.1976
1.3	25.3311	4.4914	0.3247	0.1773	105.1118	0.1979
1.36	25.2881	4.4196	0.3342	0.1748	108.3094	0.1981
1.415	25.266	4.3824	0.3448	0.1734	111.7962	0.1982
1.475	25.2374	4.366	0.3581	0.173	116.1676	0.1983
1.54	25.1947	4.3529	0.3728	0.1728	121.0292	0.1985
1.605	25.1505	4.3385	0.3872	0.1725	125.8318	0.1987
1.675	25.1094	4.334	0.4037	0.1726	131.2891	0.1988
1.745	25.0573	4.3439	0.4215	0.1734	137.2263	0.199
1.82	24.9769	4.3501	0.4402	0.1742	143.5528	0.1993
1.9	24.894	4.3369	0.4582	0.1742	149.6562	0.1997
1.98	24.833	4.3144	0.475	0.1737	155.3449	0.1999
2.065	24.788	4.302	0.494	0.1736	161.6945	0.2001
2.155	24.754	4.3192	0.5176	0.1745	169.5251	0.2002
2.25	24.7099	4.3589	0.5454	0.1764	178.7713	0.2004
2.345	24.6606	4.416	0.5758	0.1791	188.9271	0.2006
2.445	24.5977	4.4721	0.608	0.1818	199.7174	0.2008
2.55	24.5374	4.5251	0.6416	0.1844	210.9947	0.201
2.66	24.4881	4.5702	0.676	0.1866	222.4942	0.2012
2.775	24.4454	4.6274	0.714	0.1893	235.1941	0.2014
2.89	24.4019	4.6929	0.7542	0.1923	248.5921	0.2015
3.015	24.338	4.7706	0.7998	0.196	263.9417	0.2017
3.145	24.2539	4.8453	0.8473	0.1998	280.0628	0.2021
3.28	24.1802	4.9102	0.8956	0.2031	296.4001	0.2023
3.42	24.1022	4.9876	0.9485	0.2069	314.3738	0.2026
3.57	24.0156	5.0763	1.0077	0.2114	334.5247	0.2029
3.72	23.9436	5.1579	1.0669	0.2154	354.6397	0.2032
3.88	23.8513	5.2612	1.1351	0.2206	377.9299	0.2035
4.045	23.7335	5.3717	1.2082	0.2263	403.1487	0.204

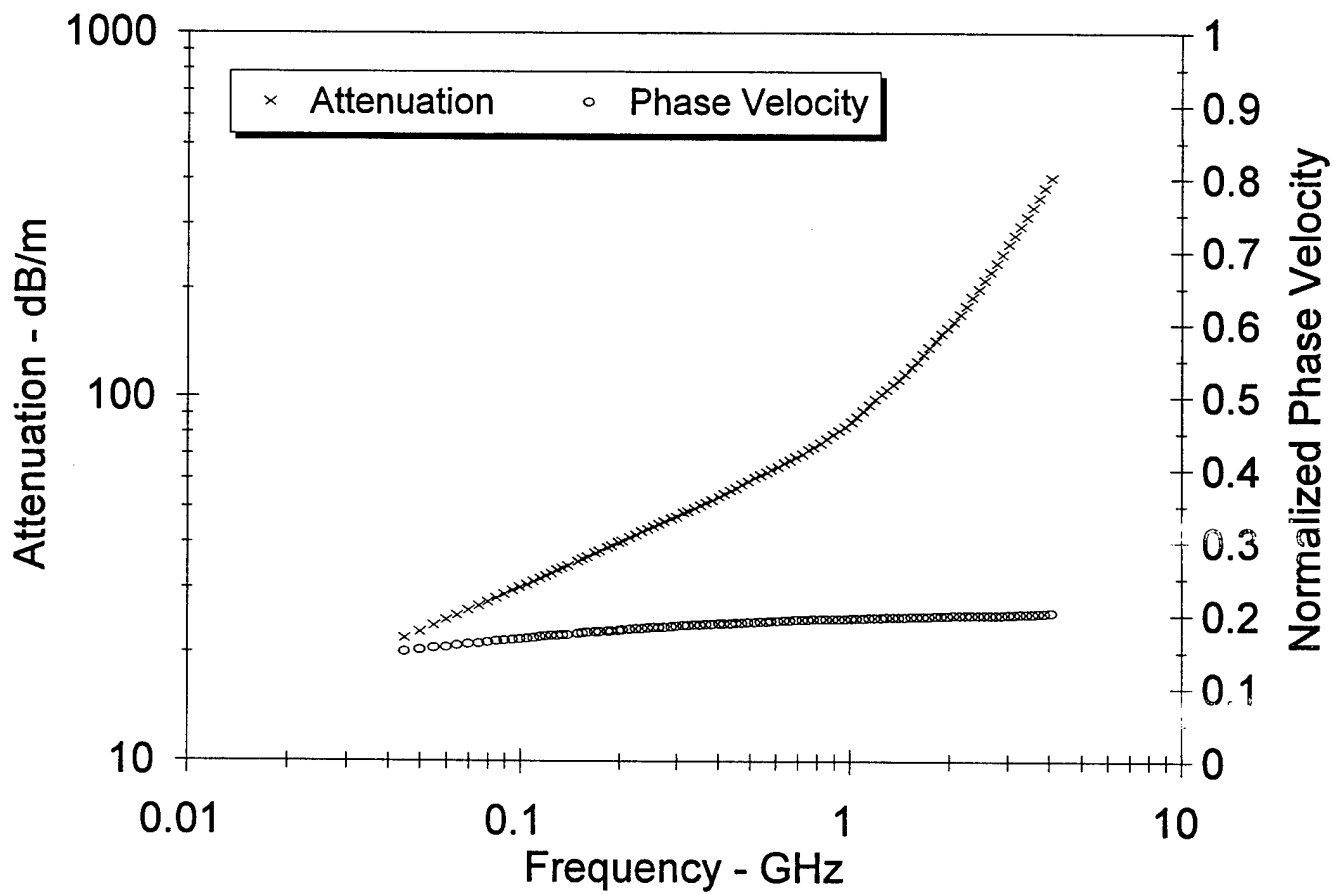
SB77.5E60.5N , File: 6SP61654  
20 deg C, Mv = 45.8%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 6SP61654  
20 deg C, Mv = 45.8%, 1.330 g/cc (dry)



SB77.5E60.5N , File: 6SP61654  
20 deg C, Mv = 45.8%, 1.330 g/cc (dry)



6SP61706

SB40E23N

4.9

3

44.4

20

1.31

SB40E23N , File: 6SP61706

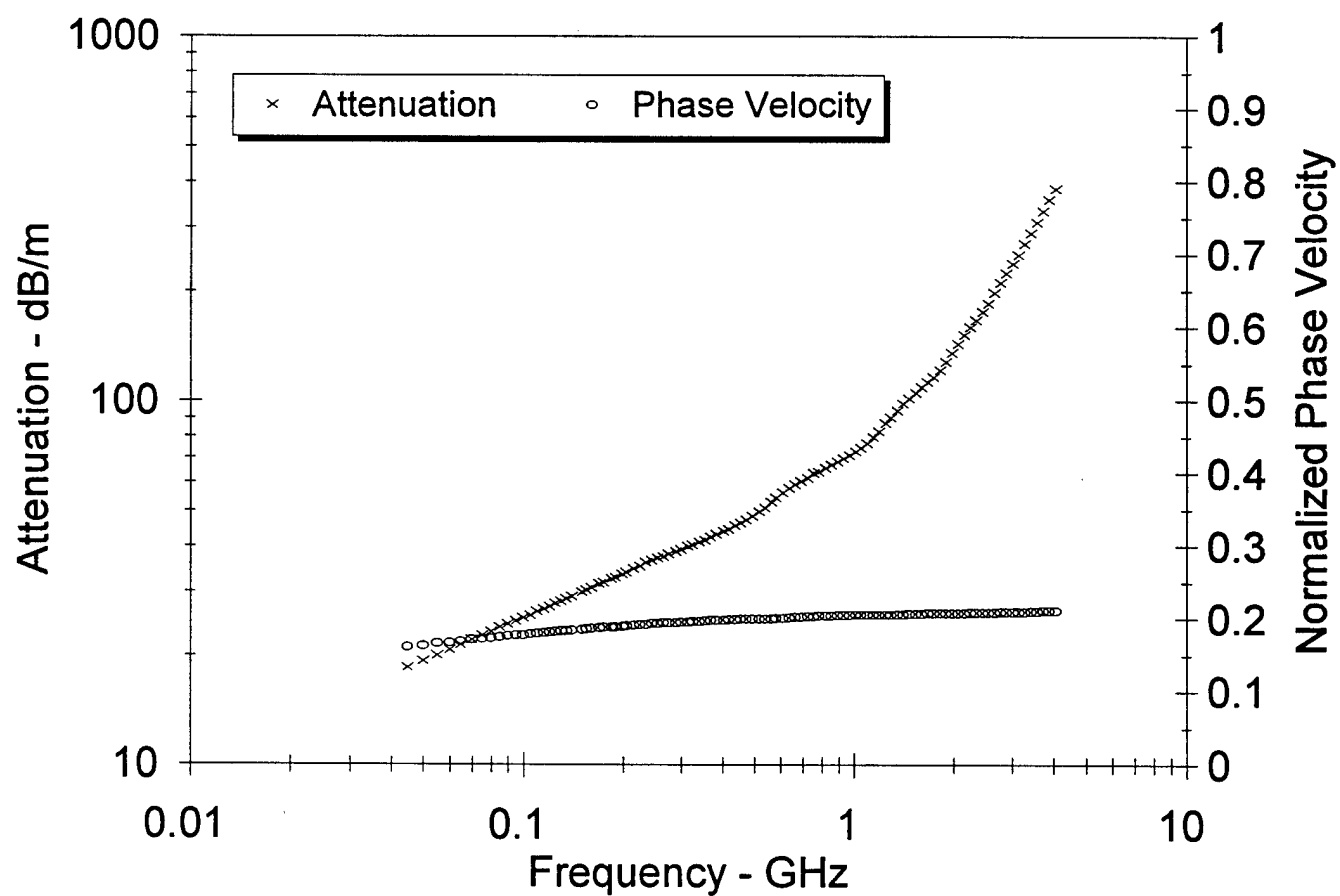
20 deg C, Mv = 44.4%, 1.310 g/cc (dry)

0.045	33.2337	27.9817	0.07	0.842	18.4973	0.1615
0.05	32.7341	25.8564	0.0719	0.7899	19.2738	0.1639
0.055	32.1819	24.0852	0.0737	0.7484	20.0293	0.1662
0.06	31.7568	22.5939	0.0754	0.7115	20.7346	0.1682
0.065	31.389	21.3044	0.077	0.6787	21.3942	0.1699
0.07	31.0122	20.1922	0.0786	0.6511	22.0457	0.1715
0.075	30.6606	19.1925	0.08	0.626	22.6494	0.173
0.08	30.364	18.3147	0.0815	0.6032	23.2304	0.1743
0.085	30.1298	17.5865	0.0831	0.5837	23.8476	0.1754
0.09	29.7875	16.8331	0.0842	0.5651	24.3594	0.1768
0.095	29.5487	16.2114	0.0856	0.5486	24.9094	0.1778
0.1	29.3114	15.6263	0.0869	0.5331	25.4201	0.1788
0.105	29.0251	15.0186	0.0877	0.5174	25.8234	0.18
0.11	28.9027	14.6161	0.0894	0.5057	26.4171	0.1806
0.115	28.6916	14.151	0.0905	0.4932	26.8726	0.1815
0.12	28.5206	13.7478	0.0917	0.482	27.3553	0.1823
0.125	28.3457	13.3557	0.0928	0.4712	27.7984	0.1831
0.13	28.1659	12.9872	0.0939	0.4611	28.2308	0.1838
0.135	28.0211	12.6569	0.095	0.4517	28.6712	0.1845
0.14	27.8733	12.3435	0.0961	0.4428	29.0988	0.1851
0.15	27.6161	11.7783	0.0982	0.4265	29.9347	0.1863
0.155	27.4855	11.5106	0.0992	0.4188	30.323	0.1869
0.16	27.3655	11.2627	0.1002	0.4116	30.7145	0.1874
0.17	27.1393	10.8013	0.1021	0.398	31.4658	0.1884
0.175	27.0405	10.5877	0.103	0.3916	31.8269	0.1888
0.185	26.8493	10.1927	0.1049	0.3796	32.5391	0.1897
0.19	26.7754	10.0125	0.1058	0.3739	32.889	0.1901
0.2	26.6026	9.673	0.1076	0.3636	33.5834	0.1909
0.205	26.5201	9.5181	0.1085	0.3589	33.9378	0.1912
0.215	26.3715	9.2382	0.1104	0.3503	34.6678	0.1919
0.225	26.2143	8.9657	0.1122	0.342	35.339	0.1926
0.235	26.0666	8.7385	0.1142	0.3352	36.0949	0.1932
0.245	25.9088	8.4649	0.1153	0.3267	36.5875	0.194
0.255	25.7736	8.214	0.1165	0.3187	37.0709	0.1946
0.265	25.6802	7.9792	0.1176	0.3107	37.5134	0.195
0.275	25.5937	7.7641	0.1187	0.3034	37.9638	0.1955
0.29	25.4845	7.4821	0.1207	0.2936	38.6894	0.196
0.3	25.402	7.3025	0.1218	0.2875	39.1425	0.1964
0.315	25.3006	7.0628	0.1237	0.2792	39.8524	0.1969
0.325	25.2362	6.9055	0.1248	0.2736	40.2677	0.1973
0.34	25.1513	6.7048	0.1268	0.2666	40.9889	0.1977
0.355	25.0493	6.4961	0.1282	0.2593	41.5686	0.1982
0.37	24.9946	6.3448	0.1305	0.2538	42.3763	0.1985
0.385	24.9298	6.1754	0.1322	0.2477	42.9888	0.1988
0.405	24.8502	5.9803	0.1347	0.2407	43.8814	0.1992
0.42	24.7992	5.8497	0.1366	0.2359	44.5704	0.1994
0.44	24.735	5.6907	0.1392	0.2301	45.4977	0.1998
0.455	24.6915	5.585	0.1413	0.2262	46.2254	0.2
0.475	24.6367	5.4621	0.1443	0.2217	47.2591	0.2003



0.495	24.584	5.3557	0.1474	0.2179	48.3512	0.2005
0.52	24.5257	5.241	0.1515	0.2137	49.7751	0.2008
0.54	24.4781	5.1669	0.1551	0.2111	51.0148	0.201
0.565	24.414	5.0959	0.1601	0.2087	52.7188	0.2013
0.585	24.3485	5.0522	0.1643	0.2075	54.1927	0.2016
0.61	24.2437	5.0001	0.1696	0.2062	56.051	0.202
0.64	24.0981	4.8974	0.1743	0.2032	57.7817	0.2027
0.665	24.0008	4.792	0.1772	0.1997	58.8759	0.2031
0.695	23.9129	4.6741	0.1806	0.1955	60.1409	0.2035
0.725	23.8356	4.567	0.1841	0.1916	61.409	0.2039
0.755	23.7847	4.5229	0.1899	0.1902	63.4044	0.2041
0.785	23.6984	4.3796	0.1912	0.1848	63.9674	0.2046
0.82	23.6226	4.2773	0.195	0.1811	65.3737	0.2049
0.855	23.5553	4.1834	0.1989	0.1776	66.7732	0.2052
0.895	23.494	4.0823	0.2032	0.1738	68.3086	0.2055
0.93	23.4568	4.0005	0.2069	0.1705	69.6213	0.2057
0.97	23.4156	3.9092	0.2109	0.1669	71.0311	0.2059
1.015	23.392	3.8238	0.2158	0.1635	72.75	0.2061
1.055	23.3824	3.7621	0.2207	0.1609	74.4195	0.2061
1.1	23.3736	3.712	0.2271	0.1588	76.5817	0.2062
1.15	23.3734	3.6901	0.236	0.1579	79.5931	0.2062
1.195	23.3565	3.6919	0.2453	0.1581	82.777	0.2063
1.25	23.3121	3.7006	0.2572	0.1587	86.8729	0.2065
1.3	23.2636	3.6969	0.2672	0.1589	90.3492	0.2067
1.36	23.204	3.6924	0.2792	0.1591	94.5263	0.2069
1.415	23.1388	3.6888	0.2902	0.1594	98.3897	0.2072
1.475	23.0658	3.6632	0.3005	0.1588	102.0135	0.2076
1.54	22.9999	3.628	0.3107	0.1577	105.639	0.2079
1.605	22.9488	3.5898	0.3204	0.1564	109.0682	0.2081
1.675	22.9188	3.5521	0.3308	0.155	112.7074	0.2083
1.745	22.9077	3.5259	0.3421	0.1539	116.5863	0.2083
1.82	22.9033	3.5283	0.3571	0.1541	121.6882	0.2083
1.9	22.8996	3.5583	0.3759	0.1554	128.1232	0.2083
1.98	22.8809	3.6135	0.3979	0.1579	135.6318	0.2084
2.065	22.8269	3.6671	0.4211	0.1606	143.7059	0.2086
2.155	22.7556	3.7074	0.4443	0.1629	151.8391	0.2089
2.25	22.6873	3.718	0.4652	0.1639	159.2198	0.2092
2.345	22.6505	3.7289	0.4862	0.1646	166.5606	0.2094
2.445	22.6304	3.7498	0.5098	0.1657	174.7046	0.2095
2.55	22.6262	3.8038	0.5394	0.1681	184.833	0.2095
2.66	22.602	3.8906	0.5755	0.1721	197.2788	0.2096
2.775	22.5418	3.981	0.6143	0.1766	210.8286	0.2098
2.89	22.4813	4.0471	0.6504	0.18	223.4763	0.2101
3.015	22.4311	4.1092	0.6889	0.1832	236.9507	0.2103
3.145	22.3993	4.1878	0.7324	0.187	252.0319	0.2104
3.28	22.3639	4.2911	0.7827	0.1919	269.4913	0.2105
3.42	22.3029	4.4055	0.8378	0.1975	288.7988	0.2107
3.57	22.2284	4.5238	0.898	0.2035	309.9896	0.211
3.72	22.1523	4.6437	0.9606	0.2096	332.0442	0.2113
3.88	22.0639	4.775	1.0302	0.2164	356.7008	0.2117
4.045	21.9665	4.9063	1.1036	0.2234	382.8064	0.2121

SB40E23N , File: 6SP61706  
20 deg C, Mv = 44.4%, 1.310 g/cc (dry)



6SP61716  
TC77.5E60.5N

4.9

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47.5

20

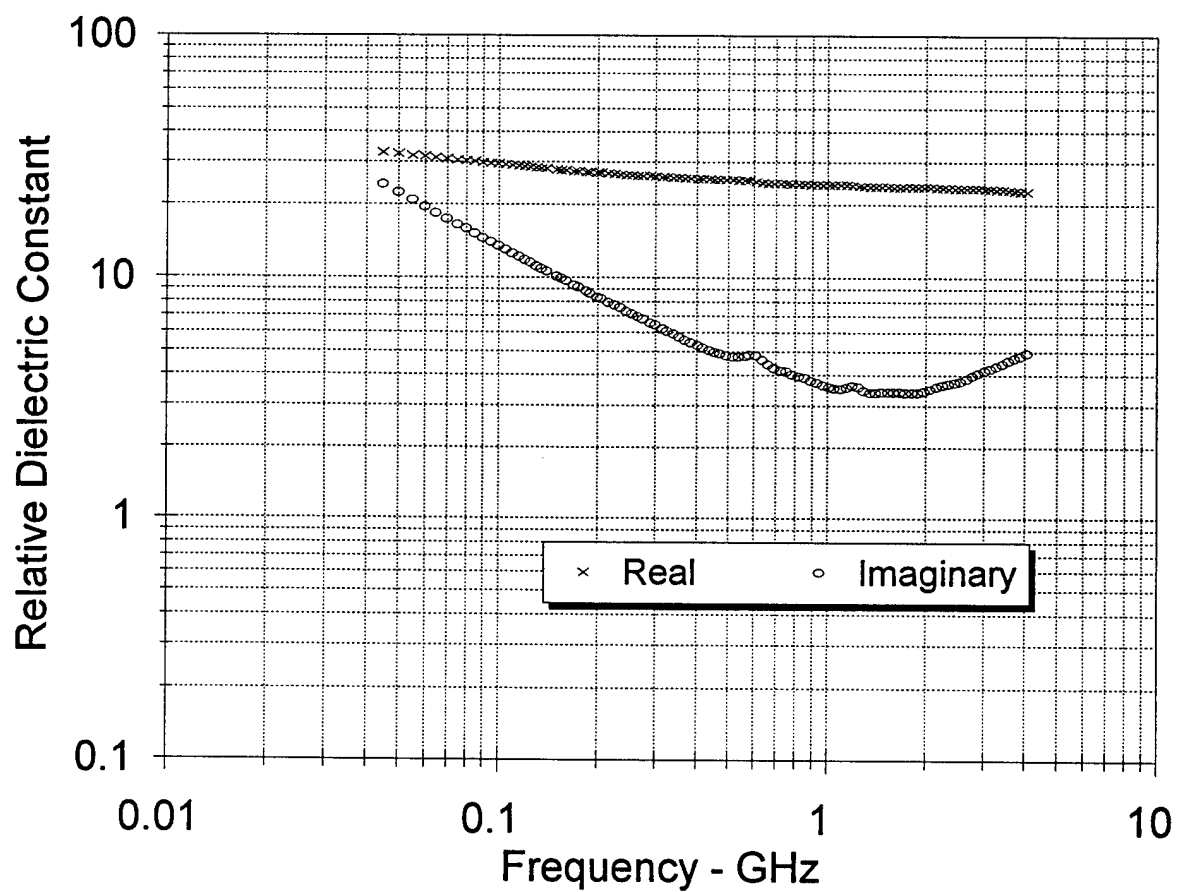
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TC77.5E60.5N , File: 6SP61716  
20 deg C, Mv = 47.5%, 1.000 g/cc (dry)

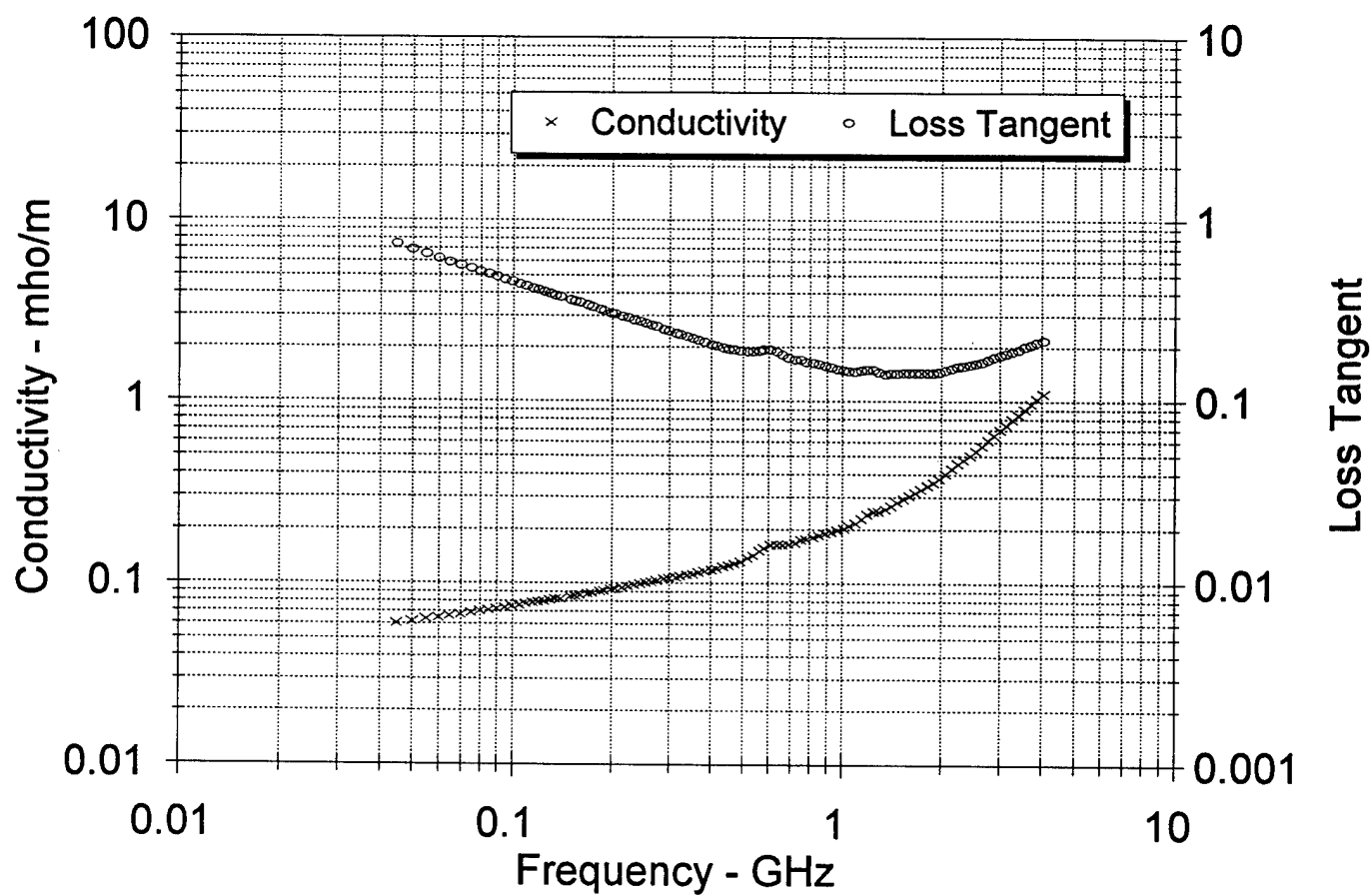
0.045	32.6995	24.033	0.0601	0.735	16.2511	0.1652
0.05	32.2767	22.2026	0.0617	0.6879	16.8937	0.1673
0.055	31.7902	20.6813	0.0633	0.6506	17.524	0.1694
0.06	31.4934	19.3875	0.0647	0.6156	18.0826	0.1709
0.065	31.1278	18.2814	0.0661	0.5873	18.6427	0.1725
0.07	30.7768	17.3189	0.0674	0.5627	19.1824	0.174
0.075	30.5033	16.4772	0.0687	0.5402	19.6911	0.1752
0.08	30.2396	15.7524	0.0701	0.5209	20.2101	0.1763
0.085	30.0327	15.0876	0.0713	0.5024	20.6788	0.1773
0.09	29.7284	14.4397	0.0723	0.4857	21.0986	0.1785
0.095	29.5212	13.9037	0.0734	0.471	21.5517	0.1794
0.1	29.3279	13.4072	0.0746	0.4572	21.9784	0.1802
0.105	29.125	12.9667	0.0757	0.4452	22.4228	0.1811
0.11	28.9646	12.5446	0.0767	0.4331	22.8154	0.1818
0.115	28.7787	12.146	0.0777	0.422	23.193	0.1826
0.12	28.6272	11.8111	0.0788	0.4126	23.617	0.1832
0.125	28.47	11.4659	0.0797	0.4027	23.9693	0.1839
0.13	28.3259	11.1558	0.0806	0.3938	24.3346	0.1845
0.135	28.1877	10.8684	0.0816	0.3856	24.6977	0.1851
0.14	28.0588	10.5994	0.0825	0.3778	25.0527	0.1856
0.15	27.832	10.1174	0.0844	0.3635	25.7567	0.1866
0.155	27.7227	9.8994	0.0853	0.3571	26.1068	0.1871
0.16	27.6115	9.6803	0.0861	0.3506	26.4193	0.1875
0.17	27.4084	9.2854	0.0878	0.3388	27.0504	0.1884
0.175	27.3239	9.0973	0.0885	0.3329	27.3363	0.1888
0.185	27.1591	8.7573	0.0901	0.3224	27.9249	0.1895
0.19	27.0988	8.5988	0.0908	0.3173	28.2025	0.1898
0.2	26.9528	8.3052	0.0924	0.3081	28.77	0.1904
0.205	26.8885	8.1729	0.0932	0.304	29.0629	0.1907
0.215	26.7701	7.9253	0.0947	0.2961	29.6391	0.1912
0.225	26.6567	7.6933	0.0963	0.2886	30.1888	0.1917
0.235	26.5528	7.4971	0.098	0.2823	30.7997	0.1922
0.245	26.4389	7.287	0.0993	0.2756	31.2914	0.1927
0.255	26.3307	7.1034	0.1007	0.2698	31.8253	0.1932
0.265	26.2461	6.9274	0.1021	0.2639	32.3178	0.1935
0.275	26.1645	6.7639	0.1034	0.2585	32.8077	0.1939
0.29	26.0618	6.5358	0.1054	0.2508	33.5119	0.1944
0.3	25.9735	6.3837	0.1065	0.2458	33.9284	0.1948
0.315	25.883	6.179	0.1082	0.2387	34.5569	0.1952
0.325	25.8203	6.048	0.1093	0.2342	34.9493	0.1955
0.34	25.7416	5.8813	0.1112	0.2285	35.6203	0.1958
0.355	25.6717	5.7084	0.1127	0.2224	36.1595	0.1962
0.37	25.6041	5.5689	0.1146	0.2175	36.8243	0.1965
0.385	25.5467	5.4264	0.1162	0.2124	37.3889	0.1968
0.405	25.4814	5.2613	0.1185	0.2065	38.1946	0.1971
0.42	25.4423	5.1588	0.1205	0.2028	38.8743	0.1973
0.44	25.3929	5.0333	0.1231	0.1982	39.7826	0.1975
0.455	25.3609	4.956	0.1254	0.1954	40.538	0.1976
0.475	25.3232	4.8693	0.1286	0.1923	41.6165	0.1978

0.495	25.2906	4.8055	0.1323	0.19	42.8325	0.198
0.52	25.2594	4.7485	0.1373	0.188	44.4934	0.1981
0.54	25.2276	4.7404	0.1423	0.1879	46.1555	0.1982
0.565	25.1539	4.782	0.1502	0.1901	48.7823	0.1985
0.585	25.0196	4.829	0.1571	0.193	51.1355	0.199
0.61	24.7748	4.8045	0.163	0.1939	53.3098	0.2
0.64	24.5194	4.6039	0.1638	0.1878	53.8901	0.2011
0.665	24.4316	4.4143	0.1632	0.1807	53.8022	0.2015
0.695	24.3937	4.2534	0.1644	0.1744	54.2373	0.2017
0.725	24.3698	4.1452	0.1671	0.1701	55.1758	0.2018
0.755	24.3651	4.1336	0.1735	0.1697	57.3049	0.2019
0.785	24.2967	4.0089	0.175	0.165	57.8763	0.2022
0.82	24.2306	3.9502	0.1801	0.163	59.6573	0.2025
0.855	24.1479	3.8782	0.1844	0.1606	61.1807	0.2028
0.895	24.0868	3.7771	0.188	0.1568	62.4621	0.2031
0.93	24.0593	3.7005	0.1914	0.1538	63.6308	0.2033
0.97	24.0307	3.6209	0.1953	0.1507	64.9861	0.2034
1.015	24.0212	3.5562	0.2007	0.148	66.8065	0.2035
1.055	24.0213	3.5181	0.2064	0.1465	68.6989	0.2035
1.1	24.0207	3.5071	0.2145	0.146	71.4068	0.2035
1.15	23.9993	3.5424	0.2265	0.1476	75.4332	0.2036
1.195	23.9178	3.5949	0.2389	0.1503	79.675	0.2039
1.25	23.745	3.5614	0.2475	0.15	82.867	0.2046
1.3	23.6897	3.4319	0.2481	0.1449	83.1586	0.2049
1.36	23.7181	3.3716	0.255	0.1422	85.4248	0.2048
1.415	23.7186	3.377	0.2657	0.1424	89.0215	0.2048
1.475	23.692	3.3919	0.2782	0.1432	93.2562	0.2049
1.54	23.6453	3.3989	0.2911	0.1437	97.6596	0.2051
1.605	23.5951	3.4006	0.3035	0.1441	101.9403	0.2053
1.675	23.5519	3.3918	0.3159	0.144	106.2074	0.2055
1.745	23.5239	3.3793	0.3279	0.1437	110.3043	0.2057
1.82	23.4943	3.3804	0.3421	0.1439	115.1553	0.2058
1.9	23.4811	3.3757	0.3566	0.1438	120.0845	0.2058
1.98	23.5043	3.409	0.3753	0.145	126.3067	0.2057
2.065	23.4935	3.479	0.3995	0.1481	134.4496	0.2058
2.155	23.4511	3.5585	0.4264	0.1517	143.6275	0.2059
2.25	23.3866	3.6193	0.4528	0.1548	152.7139	0.2062
2.345	23.3331	3.6697	0.4785	0.1573	161.5487	0.2064
2.445	23.2912	3.7104	0.5045	0.1593	170.4453	0.2066
2.55	23.2721	3.7637	0.5337	0.1617	180.3727	0.2066
2.66	23.2549	3.8463	0.5689	0.1654	192.3254	0.2067
2.775	23.2157	3.9549	0.6103	0.1704	206.4406	0.2068
2.89	23.1531	4.0602	0.6525	0.1754	220.9711	0.207
3.015	23.0736	4.1559	0.6967	0.1801	236.3183	0.2073
3.145	23.0011	4.244	0.7422	0.1845	252.0803	0.2076
3.28	22.942	4.3337	0.7904	0.1889	268.7498	0.2079
3.42	22.8829	4.4392	0.8442	0.194	287.3446	0.2081
3.57	22.8053	4.5617	0.9056	0.2	308.6583	0.2084
3.72	22.7153	4.6768	0.9674	0.2059	330.3042	0.2087
3.88	22.6198	4.7909	1.0337	0.2118	353.5527	0.2091
4.045	22.5266	4.9064	1.1036	0.2178	378.1364	0.2095

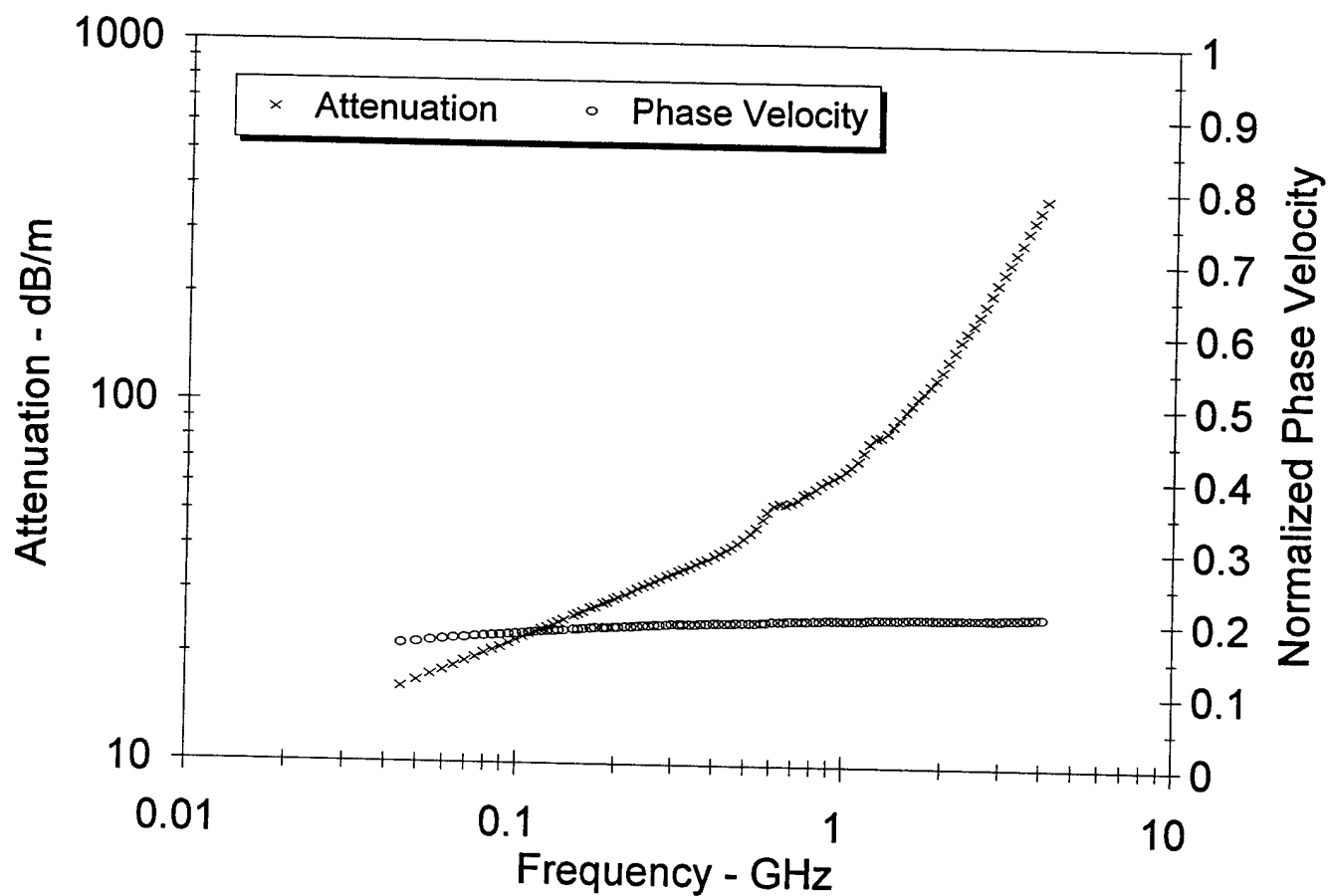
TC77.5E60.5N , File: 6SP61716  
20 deg C, Mv = 47.5%, 1.400 g/cc (dry)



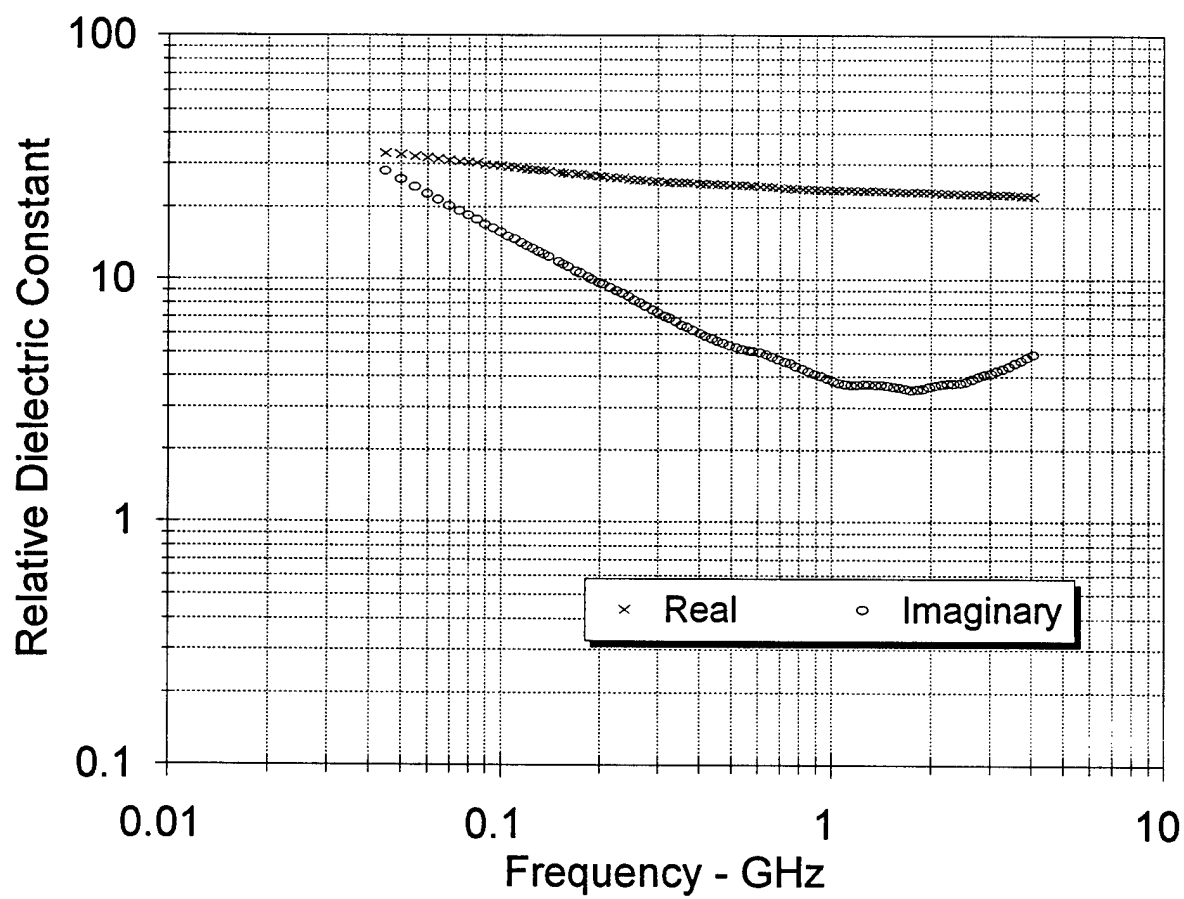
TC77.5E60.5N , File: 6SP61716  
20 deg C, Mv = 47.5%, 1.400 g/cc (dry)



TC77.5E60.5N , File: 6SP61716  
20 deg C, Mv = 47.5%, 1.400 g/cc (dry)

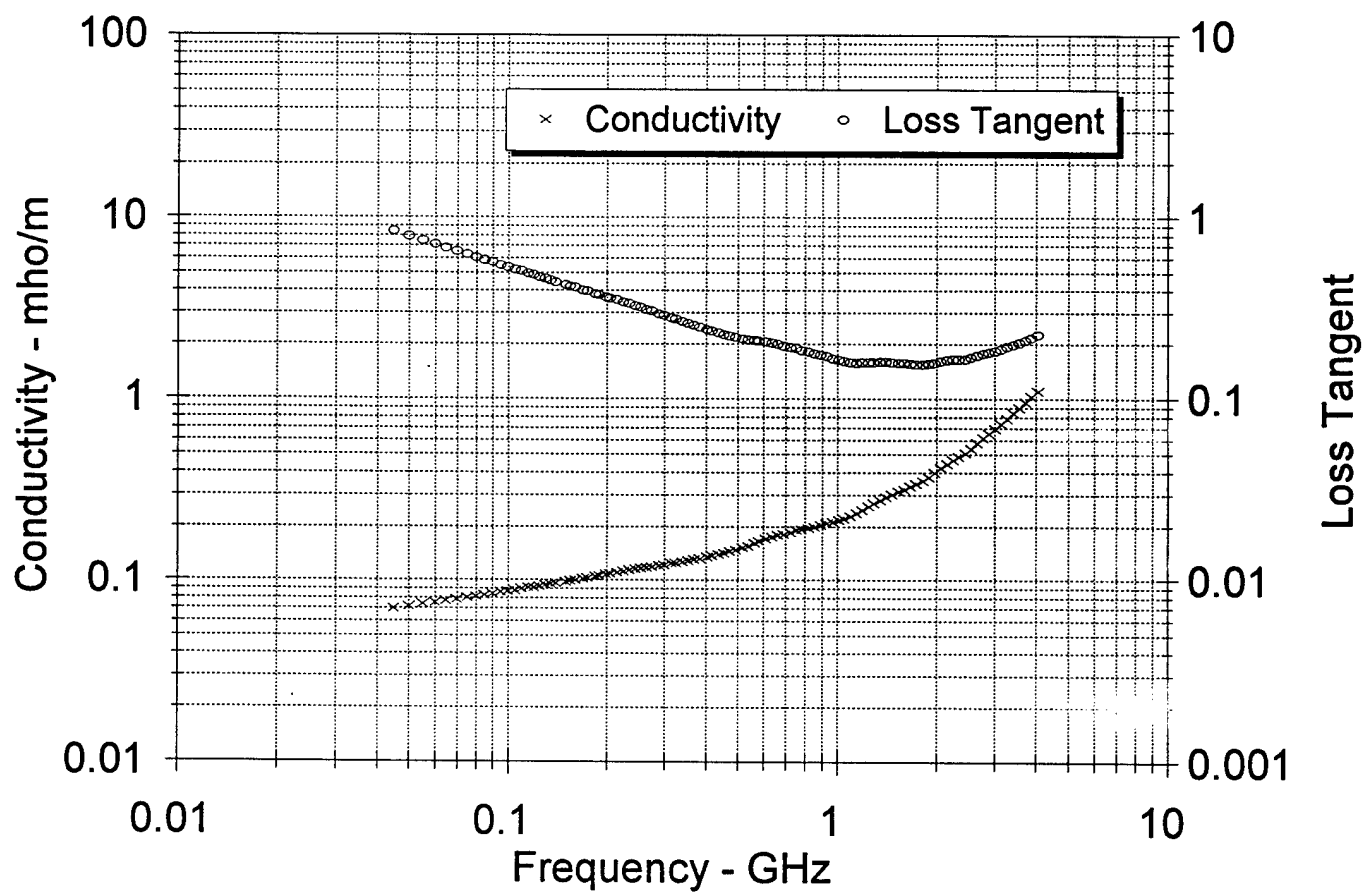


SB40E23N , File: 6SP61706  
20 deg C, Mv = 44.4%, 1.310 g/cc (dry)





SB40E23N , File: 6SP61706  
20 deg C, Mv = 44.4%, 1.310 g/cc (dry)



3 January 1997

## Data Report

# Dielectric Properties of Soils

## Fort Carson, CO -- 3rd Sample Set

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## Introduction

This report contains dielectric property measurement results for soils. The original data were collected in the form of the real and imaginary parts of the complex dielectric constant versus frequency utilizing a Hewlett-Packard 8510C Vector Network Analyzer System with an S-Parameter Test Set and a coaxial sample holder. Software developed at the U.S. Army Engineer Waterways Experiment Station was used to convert S-parameter measurements at selected frequencies into a complex dielectric constant. The soils were assumed to be nonmagnetic. Other useful electromagnetic properties were calculated from the dielectric constant and frequency, including an equivalent electrical conductivity, the loss tangent, power attenuation, and a normalized phase velocity. The section entitled, "Fundamental Relationships," contains the formulae used to calculate these properties. Additional physical parameters of the soil samples that are included in the report include their dry density, volumetric moisture content, and temperature.

Measurement results and calculated parameters are listed at four selected frequencies and displayed as a function of volumetric moisture content. The intent of presenting data in this way is to demonstrate the experimental observation that the real part of the dielectric constant, as well as the normalized phase velocity are strong functions of volumetric moisture and reasonably independent of soil texture. Other parameters are clearly dependent on soil texture, and, given enough data from several different types of soils, their graphs versus moisture content would show a great deal of scatter. The four frequencies chosen for data presentation span the range of frequencies normally associated with ground penetrating radars.

For additional details on how the data were collected, please contact the first author at the U.S. Army Engineer Waterways Experiment Station (WES), Vicksburg, MS, (voice: 601-634-2855, FAX: 601-634-2732, e-mail: [curtisj@ex1.wes.army.mil](mailto:curtisj@ex1.wes.army.mil)).

## Source of Soil Samples

The samples used for these measurements were collected in the second week of September, 1996, by Mr. Thomas Berry, a member of the site investigation team from WES. Bag samples of soil were taken from five different locations on each test site at Fort Carson. At each of these five locations a near-surface sample was acquired along with a sample at a depth of about 0.5 meters and another at a depth of about 1.0 meter.

The two test sites at Fort Carson have been given the names of Turkey Creek (identified as Site B in an earlier data report) and Seabee (formerly called Site C). Each individual soil sample has been given unique identifiers making use of the site name, the x-y location where the sample was collected, and the depth from which it was taken. The x-y position, in meters, is relative to an origin located at the southwest corner of each rectangular site. Using these guidelines, the identifier, TC27.5\_73\_.5, refers to a sample collected from the Turkey Creek site at a location 27.5 meters east and 73 meters north of the southwest corner and at a depth of 0.5 meters.

## Experimental Procedures

The experimental procedure used to collect electrical property data at WES normally consists of the following steps. First of all, soil is taken from the source container and packed into a brass coaxial sample holder using small spoons and other utensils. The holders used in these measurements have a square cross section whose dimension is 0.75 cm and are either 5 cm or 10 cm in length, resulting in total sample volumes of about 2.8 cm<sup>3</sup> and 5.6 cm<sup>3</sup>, respectively. The samples are packed as tightly as possible at whatever moisture content they retained in the bags. Hence, there is no control over sample dry density. It is highly unlikely, however, that the densities achieved by this sample preparation technique will ever exceed *in situ* densities.

After enclosing the sample in the holder with a brass cover plate, the holder is placed in a temperature control device and connected to the S-parameter test set. After the sample has reached the desired temperature, data are collected over the selected range of frequencies. Following removal of the sample holder from the temperature control apparatus, the cover plate is removed, and the sample is allowed to air dry (usually for a twenty-four hour period). After the collected of a second set of data at nominally-dry conditions, the sample is wetted to near saturation by the careful addition of distilled, deionized water. After allowing some time for the added moisture to fully penetrate the soil structure (usually about an hour), the electrical properties are once again measured. Therefore, each sample is tested three times, once as is, once after air drying, and once at near-saturation conditions. The addition of water would not work for a sample that contained a large amount of swelling clay minerals, as the sample would expand too far out of the sample holder to allow a measurement to be made.

Sample masses are recorded prior to each measurement. Following the last data collection, the soil is scraped and flushed from the sample holder and dried in an oven to obtain its dry mass, which, by virtue of knowing the sample volume, leads to the sample dry density and the calculation of sample volumetric moisture contents for each measurement. Of course, these data can also be used to calculate the commonly used weight-based moisture content as well.

## Fundamental Relationships

Assuming plane harmonic wave propagation in a lossy, non-magnetic, unbounded medium, the wave amplitude function may be written:

$$e^{i(kx - \omega t)}$$

where

$$k = \beta + i\alpha = \omega N/c$$

is the complex propagation constant,

$\beta$  is the phase constant,

$\alpha$  is the amplitude attenuation factor,

$\omega$  is the radial frequency,

$N$  is the complex index of refraction,

$c$  is the velocity of light in a vacuum,

$i$  is the symbol designating an imaginary quantity =  $\sqrt{-1}$  ,

$x$  is a space coordinate, and

$t$  is time.

Furthermore,

$$N^2 = \epsilon = \epsilon' + \epsilon''$$

where  $\epsilon$  is the relative complex dielectric constant, which, along with the electrical conductivity from Ohm's Law, represents the electrical properties of the medium. The interpretation of these properties as used in this study is that the conductivity,  $\sigma$  , accounts for current due to free charged particle motion, while the imaginary part of the complex dielectric constant,  $\epsilon''$  , accounts for displacement current losses (those due to the electric polarization of the medium). When both conduction and displacement currents are considered, one finds two terms in Ampere's law for current flow that represent losses (or a shift in phase), one containing the electrical conductivity and one containing the imaginary part of the dielectric constant. While these two terms account

for different loss mechanisms, most researchers use only one term or the other to identify losses, with many users preferring to deal with the concept of electrical conductivity. In MKS units, the relationship between the two quantities is taken to be

$$\sigma = \epsilon''\epsilon_0\omega$$

where the units of conductivity are mhos/meter (or siemens/meter) and  $\epsilon_0$  is the permittivity of free space ( $8.85 \times 10^{-12}$  farads/meter).

Squaring the expression for the complex propagation constant, substituting the expression for the square of the complex index of refraction, and equating real and imaginary components, one obtains two algebraic equations that relate the amplitude attenuation factor and phase constant to the complex dielectric constant:

$$\beta^2 - \alpha^2 = \frac{\omega^2}{c^2}\epsilon'$$

and

$$\alpha\beta = \frac{\omega^2\epsilon''}{2c^2}$$

Solving these equations for the amplitude attenuation factor and for the phase constant results in the following expressions:

$$\alpha = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$

and

$$\beta = \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{1/2}$$

The  $\epsilon''/\epsilon'$  ratio is also referred to as the loss tangent. Some researchers prefer to work with the electrical conductivity in place of the dielectric loss term.

Plane waves of constant phase will propagate with a velocity

$$v = \frac{\omega}{\beta} = c \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} + 1 \right) \right)^{-1/2}$$

This phase velocity is not necessarily the speed with which the energy of the wave propagates through the

medium. The latter is referred to as the group velocity and can be calculated as the rate of change of radial frequency with respect to the phase constant. However, as long as the phase velocity is relatively constant over the range of frequencies of interest, then there is little difference between phase velocity and group velocity.

The power intensity of the plane electromagnetic wave decreases exponentially with depth of penetration by the factor,  $e^{-2\alpha x}$ , or, in one unit of distance traveled, a decrease of  $e^{-2\alpha}$ . Power attenuation expressed in decibels per meter can then be written as:

$$PL = -8.6859 \frac{\omega}{c} \left( \frac{\epsilon'}{2} \left( \sqrt{1 + \left( \frac{\epsilon''}{\epsilon'} \right)^2} - 1 \right) \right)^{1/2}$$

## Theoretical Loss Tangent Effects

The most straightforward design of a ground-penetrating radar data collection effort and subsequent analysis of those data would require estimates of the speed with which a radar signal will propagate through the terrain and the rate at which the power level of the signal will be attenuated. The former provides the locations of subsurface anomalies, while the latter controls the depth to which meaningful data can be collected.

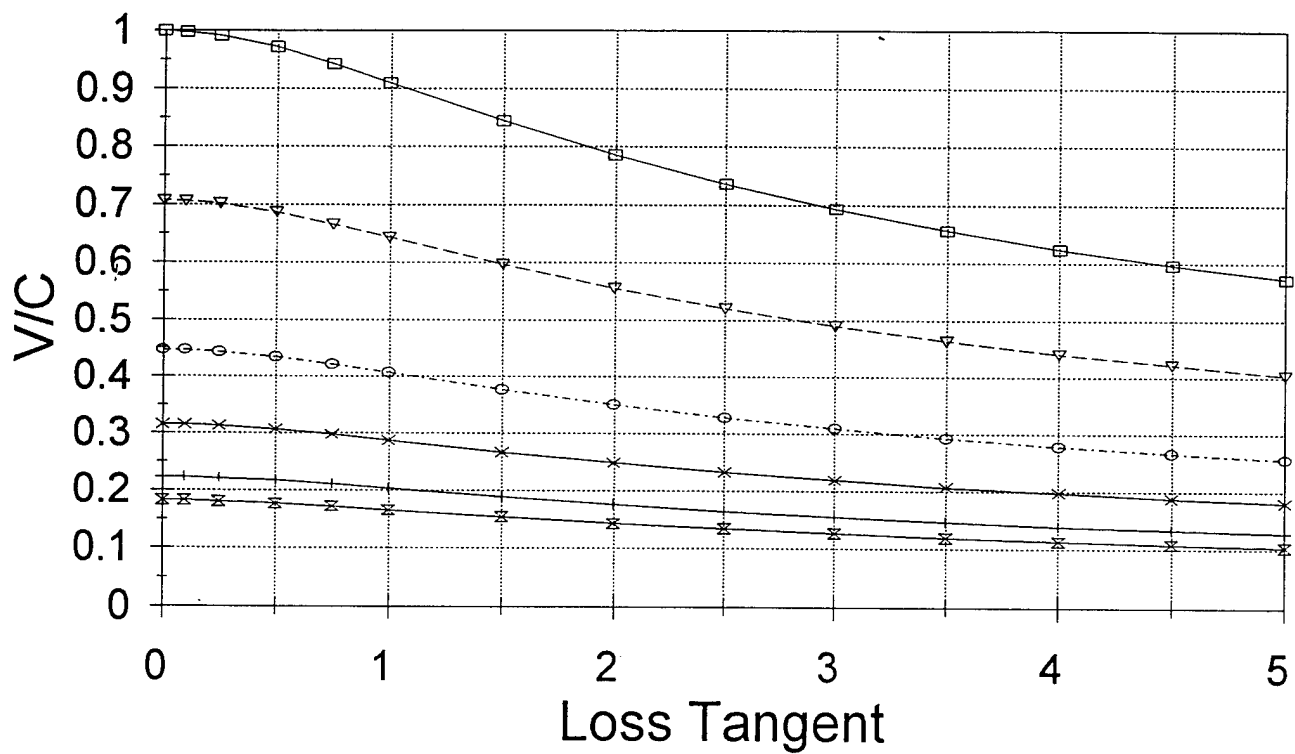
Usually, phase velocity is taken to be a good approximation of electromagnetic wave speed. Furthermore, many designers and analysts choose to assume that the material through which the wave is propagating is relatively lossless. The first figure that follows is a plot of normalized phase velocity ( $v/c$ ) for selected values of the real part of the complex dielectric constant (often referred to as the permittivity of the material) against values of the loss tangent. The permittivity values easily span the range of values found in most soils. The figure clearly demonstrates that as long as the loss tangent is relatively small (say, less than 0.5), the lossless material assumption is a good one. However, a loss tangent of 1.0, which is not uncommon, will result in about a ten percent error in phase velocity compared to the lossless assumption.

As for signal power attenuation, obviously the lossless material assumption is meaningless. One can see from the second plot that follows that the rate at which the power level of an electromagnetic wave decreases when traveling through the soil is very sensitive to the value of the loss tangent and to the frequency at which the signal is being propagated.



## Loss Tangent Effects

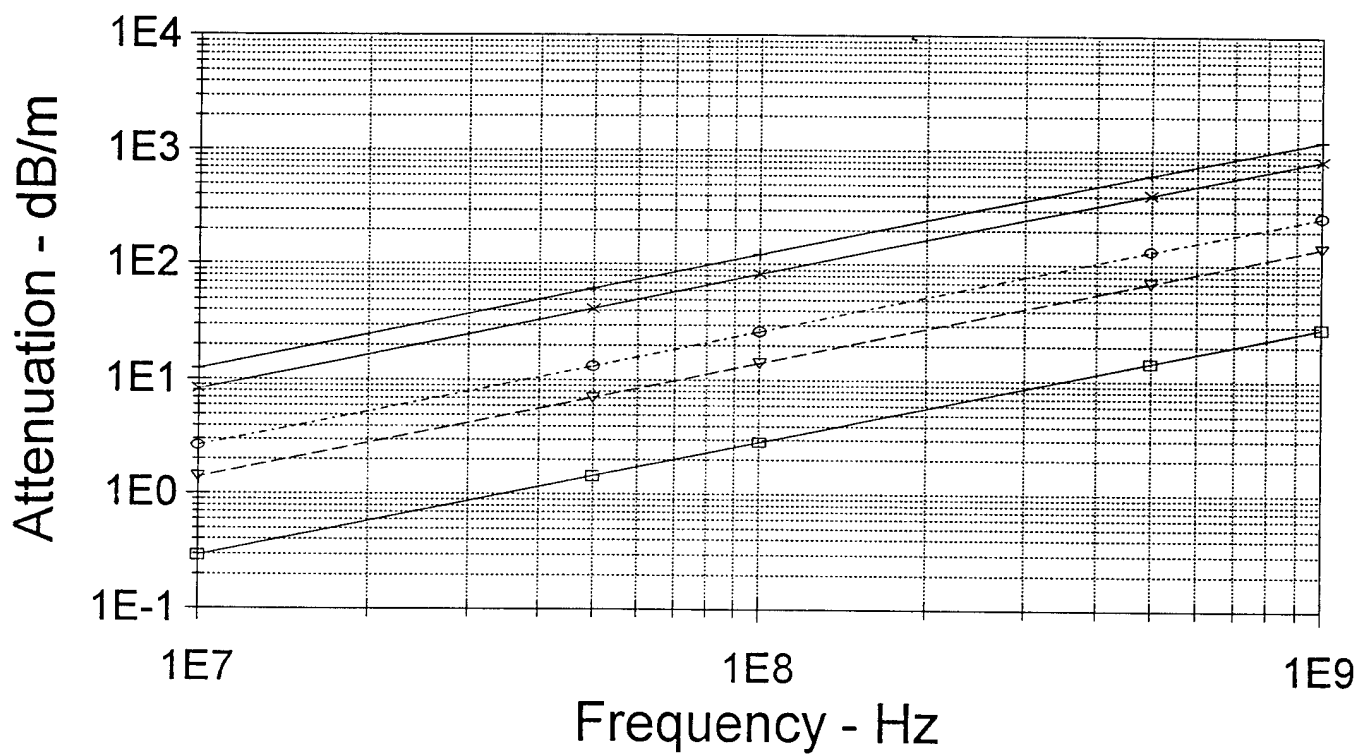
### Normalized Phase Velocity



—□— epsilon = 1    -▽- epsilon = 2    -○- epsilon = 5  
—x— epsilon = 10    —+— epsilon = 20    —x— epsilon = 30

## Loss Tangent Effects

Attenuation (Permittivity = 10)



—□— Loss Tangent = .1    --▽-- Loss Tangent = .5    -○- Loss Tangent = 1  
—×— Loss Tangent = 5    —+— Loss Tangent = 10

## Representative Data

The following pages contain a sample of the electrical property data associated with these Fort Carson soil samples. Although laboratory data are collected as a function of frequency for a constant value of volumetric moisture, it has been found that one particularly useful format for displaying these data is to plot results (both measured and calculated) versus moisture content at selected frequencies. The frequencies chosen for this report are 50, 100, 200, and 895 MHz, and were chosen to be representative of the normal operating frequencies of ground penetrating radar systems.

At each frequency, the data are presented in the following way. First of all, one will find a table of measured and calculated parameters, the first page being for samples taken from the Seabee test site, and the second page being for Turkey Creek samples. The first column of each page provides the location and depth code, while the second column lists the volumetric moisture content (in percent) of that particular sample. The third column contains the dry density (in grams per cubic centimeters) of the sample that was tested. The last six columns list the real and imaginary components of the measured relative complex dielectric constant, the equivalent conductivity (in mhos per meter), the loss tangent, the power attenuation factor in decibels per meter, and the normalized phase velocity.

The table is followed by several plots of parameters versus volumetric moisture. The first six plots represent a composite of all sample depths and both test sites. Experience from previous data collection efforts with many different types of soils has shown that the permittivity and the normalized phase velocity are very strong functions of volumetric moisture and virtually independent of soil type. These data confirm those previous observations, although there is more scatter in these data than is usually seen. Not wishing to dwell on the possible causes for this scatter, there is some evidence that sample material may have been lost and the sample cell geometry may have been distorted during the near-saturated sample measurements. Nevertheless, the first six plots clearly establish that there is no fundamental difference in electrical property values for the two test sites.

The next question to be answered is whether or not sample depth makes a difference in electrical properties. This question is addressed by plotting the six parameters versus moisture content while distinguishing sample depth. Six plots appear for the Seabee test site, and six plots are shown for the Turkey Creek test site. Once again, the overwhelming conclusion is that there is no difference in electrical properties as a result of sample depth.

Fort Carson\_3  
Properties at 50 Mhz

## Fort Carson\_3 Soil Properties at 50 MHz

## Seabee Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
SB8_17_S	12.90	1.712	10.04	5.94	0.0165	0.59	8.20	0.30
SB8_17_S	30.65	1.712	25.90	33.27	0.0925	1.28	25.94	0.17
SB8_17_S	41.83	1.712	30.99	38.12	0.106	1.23	27.39	0.16
SB27.5_73_S	5.4	1.28	4.95	1.82	0.005	0.37	3.65	0.44
SB27.5_73_S	25.77	1.28	15.35	13.04	0.0362	0.85	14.08	0.24
SB27.5_73_S	46.99	1.28	35.55	24.33	0.0676	0.68	17.64	0.16
SB65_10.5_S	7.2	1.399	5.61	2.35	0.0065	0.42	4.42	0.41
SB65_10.5_S	32.80	1.399	20.24	19.96	0.0555	0.99	18.40	0.20
SB65_10.5_S	43.83	1.399	29.46	27.28	0.0758	0.93	21.03	0.17
SB122_8_S	9.96	1.756	10.13	5.81	0.0162	0.57	8.01	0.30
SB122_8_S	35.74	1.756	31.12	39.76	0.1105	1.28	28.31	0.16
SB122_8_S	37.92	1.756	27.77	34.50	0.0959	1.24	26.14	0.17
SB123_97_S	7.50	1.336	6.42	3.04	0.0085	0.47	5.32	0.38
SB123_97_S	21.41	1.336	14.53	14.30	0.0397	0.98	15.56	0.24
SB123_97_S	47.63	1.336	40.86	33.15	0.0922	0.81	22.05	0.15
SB8_17_5	12.00	1.805	11.44	7.75	0.0215	0.68	9.92	0.28
SB8_17_5	34.52	1.805	30.09	37.65	0.1047	1.25	27.37	0.16
SB8_17_5	38.17	1.805	28.08	33.31	0.0926	1.19	25.31	0.17
SB27.5_73_5	9	1.498	7.18	4.00	0.0111	0.56	6.55	0.36
SB27.5_73_5	27.24	1.498	17.36	20.90	0.0581	1.20	20.14	0.21
SB27.5_73_5	44.09	1.498	35.77	30.75	0.0855	0.86	21.72	0.16
SB65_10.5_5	10.49	1.534	8.40	4.96	0.0138	0.59	7.48	0.33
SB65_10.5_5	31.84	1.534	23.95	28.48	0.0792	1.19	23.42	0.18
SB65_10.5_5	45.55	1.534	35.85	35.79	0.0995	1.00	24.75	0.15
SB122_8_5	11.42	1.687	9.91	5.65	0.0157	0.57	7.87	0.31
SB122_8_5	38.96	1.687	31.84	34.91	0.097	1.10	25.24	0.16
SB122_8_5	41.75	1.687	31.38	37.24	0.1035	1.19	26.76	0.16
SB123_97_5	11.40	1.662	9.84	5.88	0.0164	0.60	8.20	0.31
SB123_97_5	31.12	1.662	25.59	32.46	0.0903	1.27	25.52	0.17
SB123_97_5	38.23	1.662	33.69	39.40	0.1095	1.17	27.40	0.15
SB8_17_1	10.56	1.823	10.57	7.14	0.0199	0.68	9.51	0.29
SB8_17_1	32.01	1.823	28.30	39.52	0.1099	1.40	28.99	0.16
SB8_17_1	36.56	1.823	27.58	37.00	0.1029	1.34	27.71	0.16
SB27.5_73_1	7.58	1.587	7.61	4.43	0.0123	0.58	7.03	0.35
SB27.5_73_1	26.31	1.587	20.63	23.78	0.0661	1.15	21.19	0.20
SB27.5_73_1	31.81	1.587	24.19	25.30	0.0703	1.05	21.15	0.18
SB65_10.5_1	8.92	1.685	8.15	5.10	0.0142	0.63	7.79	0.34
SB65_10.5_1	30.6	1.685	23.87	28.70	0.0798	1.20	23.59	0.18
SB65_10.5_1	37.71	1.685	28.42	29.37	0.0817	1.03	22.70	0.17
SB122_8_1	11.46	1.746	11.61	6.97	0.0194	0.60	8.94	0.28
SB122_8_1	37.67	1.746	34.64	46.12	0.1282	1.33	30.87	0.15
SB122_8_1	38.78	1.746	28.82	35.96	0.1	1.25	26.72	0.16
SB123_97_1	13.10	1.642	10.71	6.76	0.0188	0.63	9.00	0.29
SB123_97_1	28.79	1.642	24.58	36.05	0.1002	1.47	28.07	0.17
SB123_97_1	38.62	1.642	22.90	26.30	0.0731	1.15	22.25	0.19

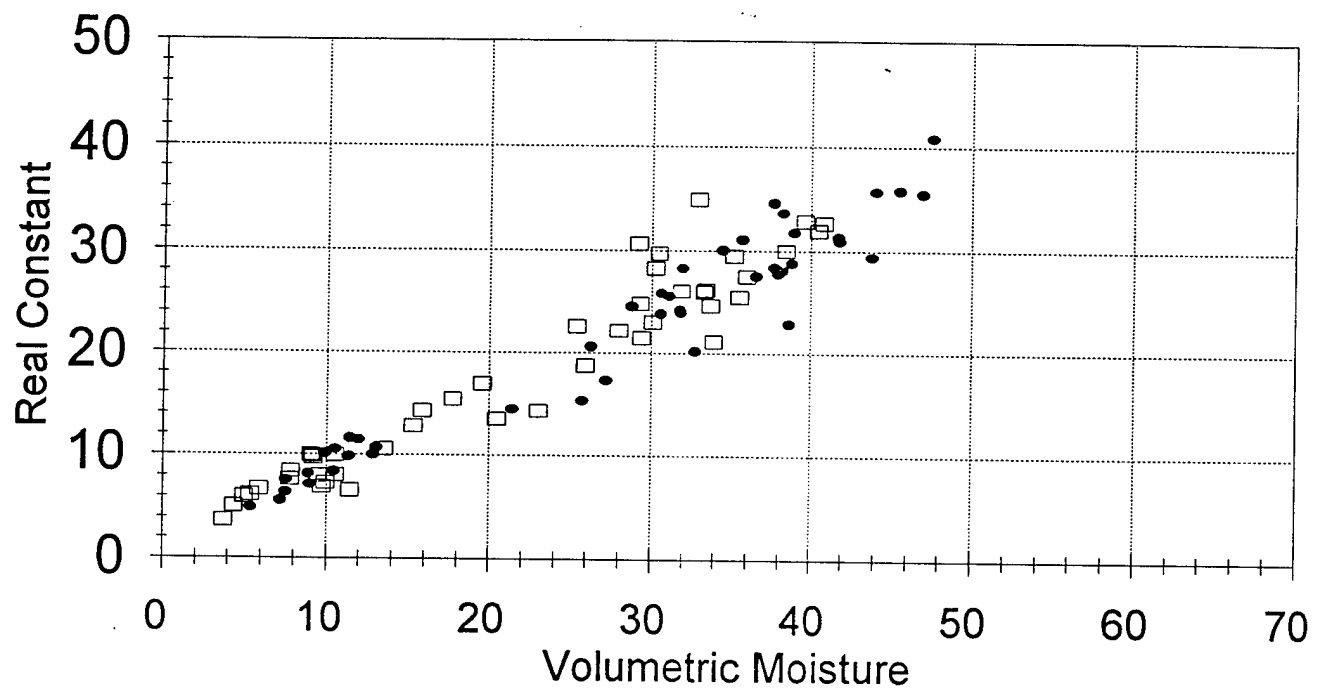
## Fort Carson\_3 Soil Properties at 50 MHz

## Turkey Creek Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
TC8_17_S	5.92	1.805	6.73	2.77	0.0077	0.41	4.77	0.38
TC8_17_S	15.89	1.805	14.31	14.35	0.0399	1.00	15.70	0.24
TC8_17_S	29.29	1.805	24.85	22.07	0.0614	0.89	18.63	0.19
TC27.5_73_S	5.36	1.796	6.23	1.91	0.0053	0.31	3.45	0.40
TC27.5_73_S	17.77	1.796	15.46	18.42	0.0512	1.19	18.84	0.23
TC27.5_73_S	31.89	1.796	26.09	36.47	0.1014	1.40	27.85	0.17
TC65_10.5_S	4.38	1.772	5.10	1.10	0.0031	0.22	2.20	0.44
TC65_10.5_S	13.55	1.772	10.64	8.18	0.0227	0.77	10.72	0.29
TC65_10.5_S	33.76	1.772	24.67	19.29	0.0536	0.78	16.59	0.19
TC122_8_S	5.02	1.749	6.03	1.82	0.0051	0.30	3.33	0.40
TC122_8_S	15.35	1.749	12.83	10.97	0.0305	0.86	12.95	0.26
TC122_8_S	35.55	1.749	25.51	21.68	0.0603	0.85	18.16	0.18
TC123_97_S	7.81	1.931	7.68	3.63	0.0101	0.47	5.80	0.35
TC123_97_S	25.39	1.931	22.64	21.80	0.0606	0.96	19.07	0.19
TC123_97_S	28	1.931	22.20	24.04	0.0668	1.08	20.87	0.19
TC8_17_5	9.06	1.814	10.07	6.35	0.0176	0.63	8.71	0.30
TC8_17_5	30.24	1.814	28.31	32.97	0.0917	1.16	25.03	0.17
TC8_17_5	36	1.814	27.52	29.49	0.082	1.07	23.03	0.17
TC27.5_73_5	9.51	1.424	8.00	4.70	0.0131	0.59	7.27	0.34
TC27.5_73_5	25.93	1.424	18.80	20.14	0.056	1.07	19.03	0.21
TC27.5_73_5	39.64	1.424	32.90	30.63	0.0852	0.93	22.33	0.16
TC65_10.5_5	10.53	1.621	8.03	7.34	0.0204	0.91	10.86	0.33
TC65_10.5_5	29.38	1.621	21.55	26.90	0.0748	1.25	23.11	0.19
TC65_10.5_5	35.16	1.621	29.53	30.12	0.0837	1.02	22.88	0.17
TC122_8_5	32.98	1.839	34.97	42.33	0.1177	1.21	28.72	0.15
TC122_8_5	38.43	1.839	30.05	40.84	0.1135	1.36	29.23	0.16
TC122_8_5	10.51	1.839	10.01	5.35	0.0149	0.53	7.44	0.31
TC123_97_5	9.24	1.932	9.80	5.46	0.0152	0.56	7.66	0.31
TC123_97_5	30.47	1.932	29.79	34.66	0.0964	1.16	25.65	0.16
TC123_97_5	33.45	1.932	26.20	34.73	0.0966	1.33	26.75	0.17
TC8_17_1	7.83	1.741	8.48	5.23	0.0145	0.62	7.83	0.33
TC8_17_1	19.54	1.741	16.96	20.40	0.0567	1.20	19.90	0.21
TC8_17_1	30.1	1.741	23.07	26.69	0.0742	1.16	22.47	0.19
TC27.5_73_1	9.70	1.394	6.94	4.44	0.0123	0.64	7.33	0.36
TC27.5_73_1	23.03	1.394	14.34	17.08	0.0475	1.19	18.15	0.23
TC27.5_73_1	40.82	1.394	32.74	36.15	0.1005	1.10	25.75	0.16
TC65_10.5_1	9.96	1.344	7.30	4.82	0.0134	0.66	7.75	0.35
TC65_10.5_1	20.45	1.344	13.58	16.62	0.0462	1.22	18.06	0.24
TC65_10.5_1	40.47	1.344	32.02	30.83	0.0857	0.96	22.68	0.16
TC122_8_1	9.15	1.854	9.95	6.12	0.017	0.62	8.46	0.30
TC122_8_1	29.19	1.854	30.72	38.17	0.1061	1.24	27.50	0.16
TC122_8_1	33.32	1.854	26.01	30.27	0.0842	1.16	23.98	0.17
TC123_97_1	3.76	1.693	3.68	0.93	0.0026	0.25	2.20	0.52
TC123_97_1	11.46	1.693	6.64	2.93	0.0081	0.44	5.05	0.38
TC123_97_1	33.98	1.693	21.19	9.24	0.0257	0.44	8.93	0.21

# Fort Carson\_3

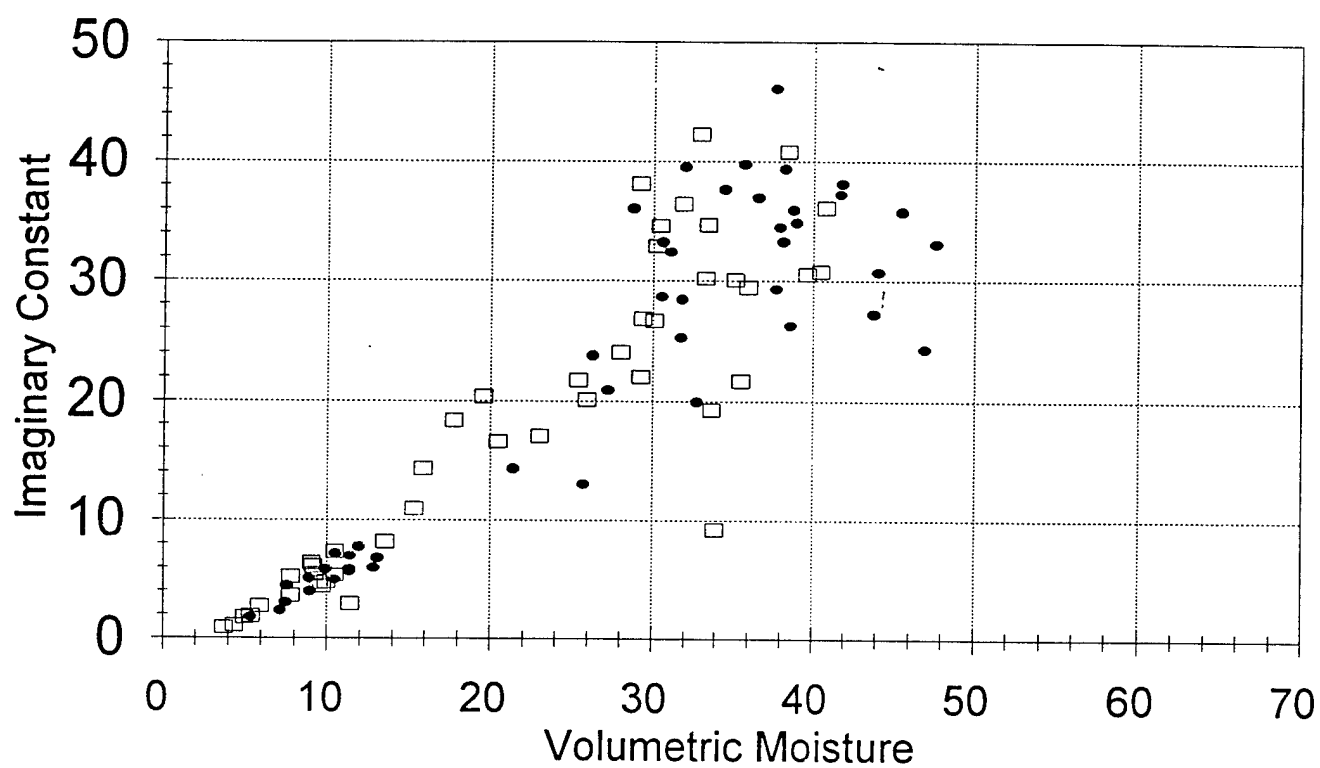
## Properties at 50 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

# Fort Carson\_3

## Properties at 50 MHz , All Depths

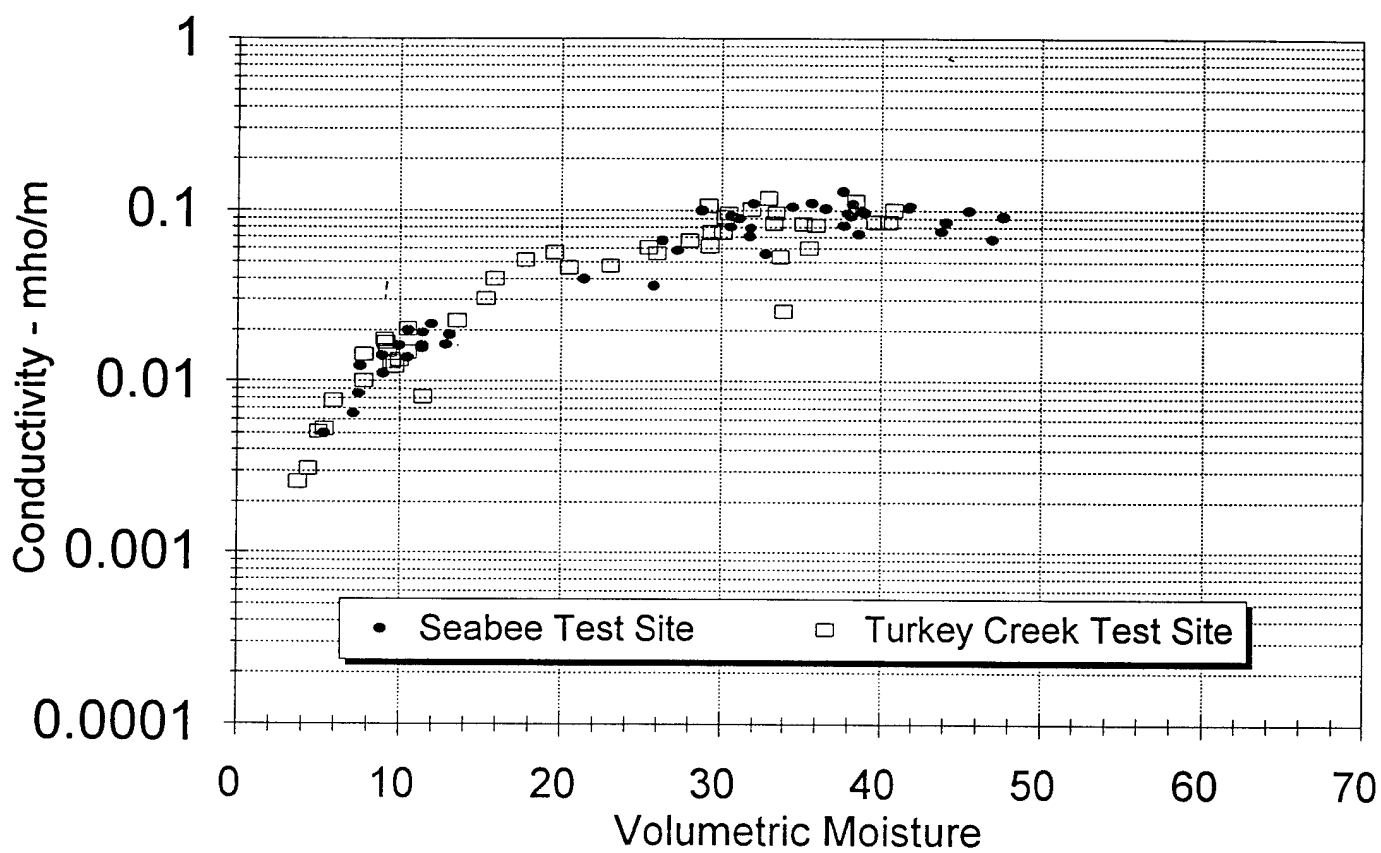


• Seabee Test Site      □ Turkey Creek Test Site



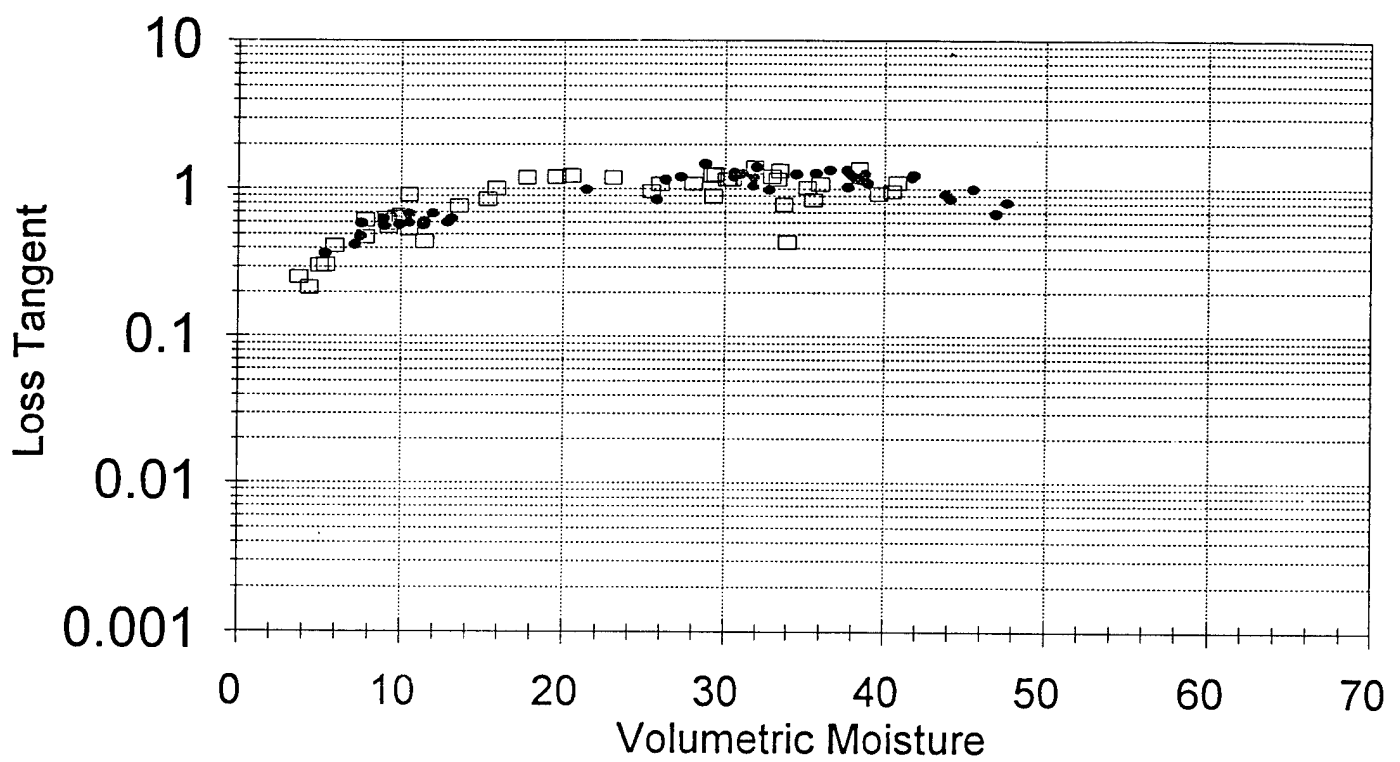
# Fort Carson\_3

## Properties at 50 MHz , All Depths



# Fort Carson\_3

## Properties at 50 MHz , All Depths

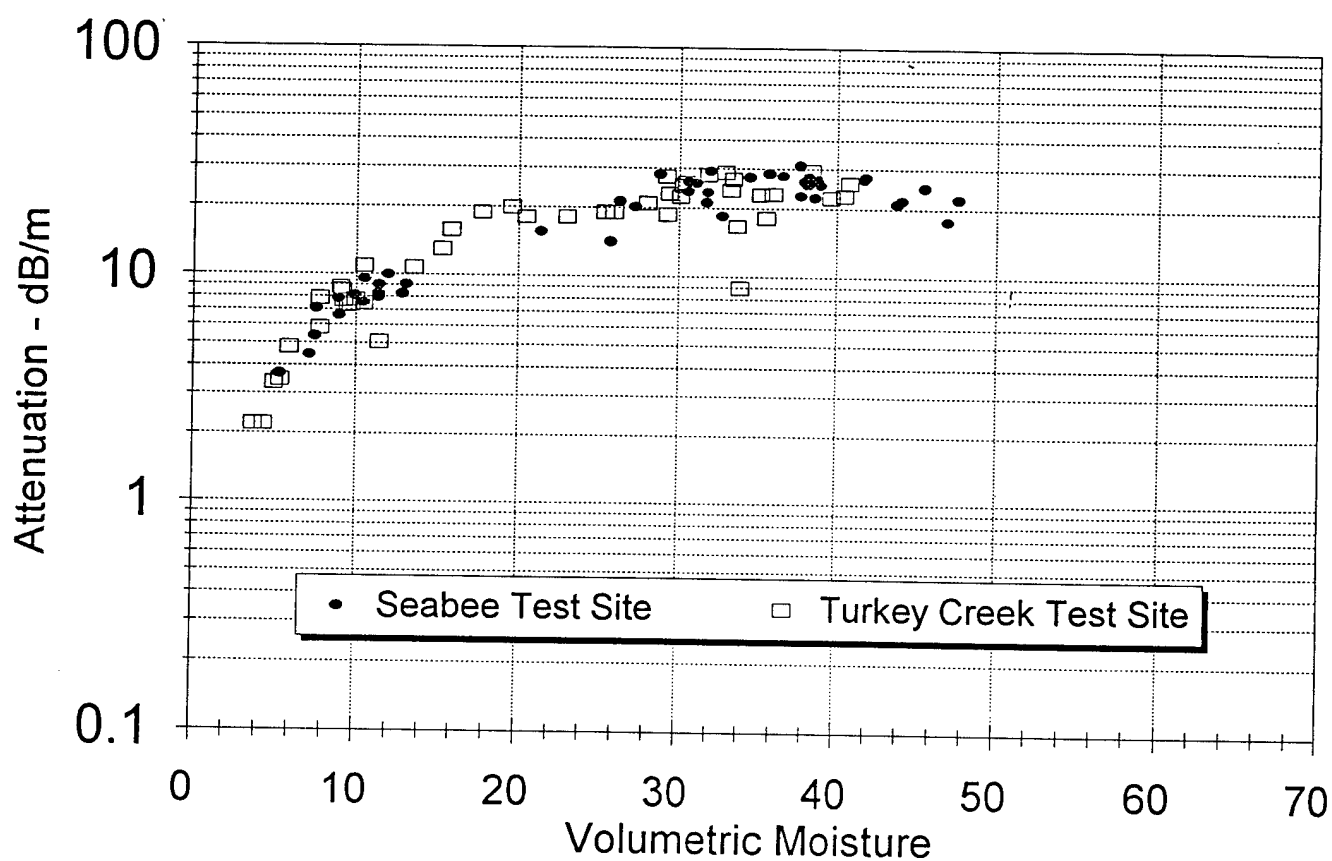


• Seabee Test Site

□ Turkey Creek Test Site

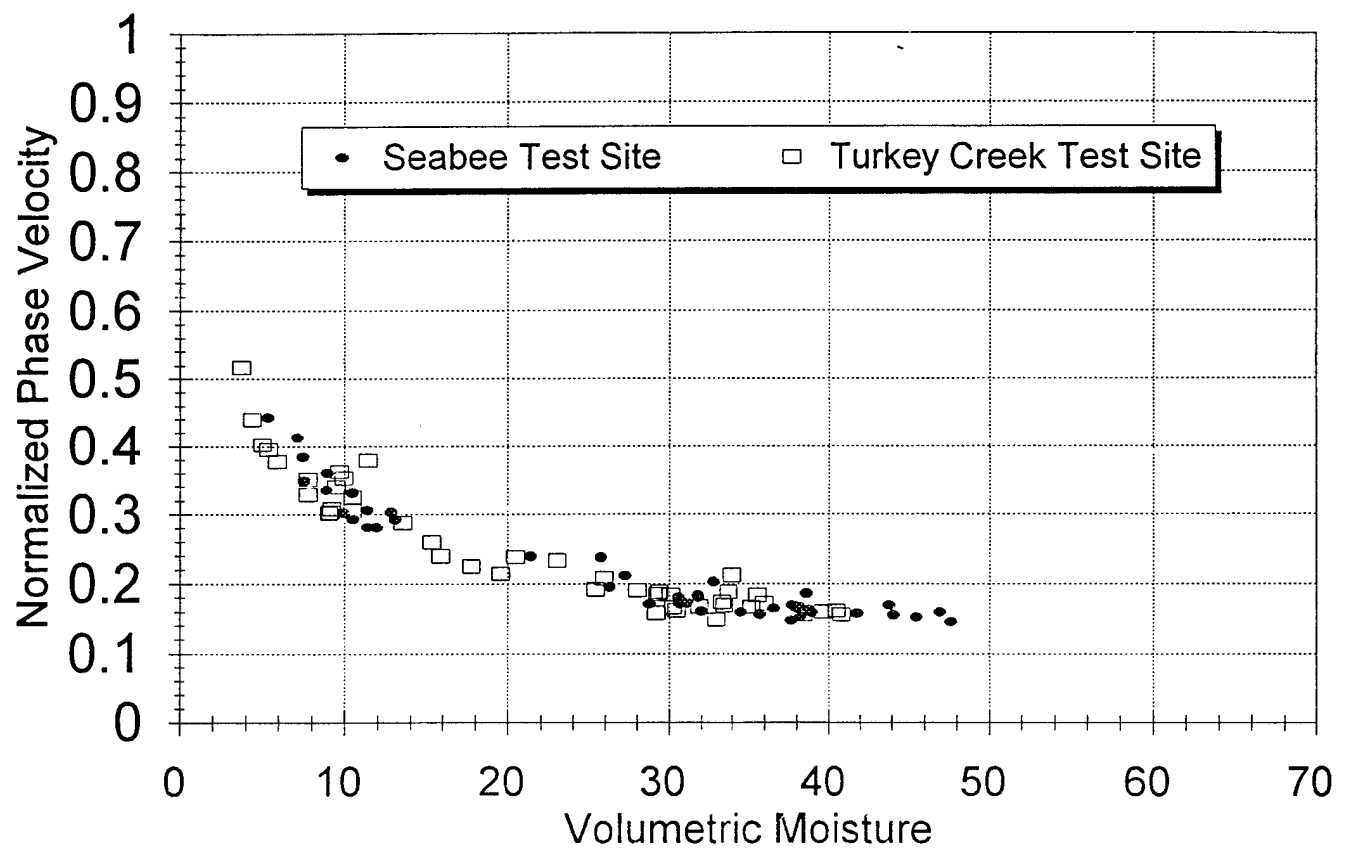
# Fort Carson\_3

## Properties at 50 MHz , All Depths

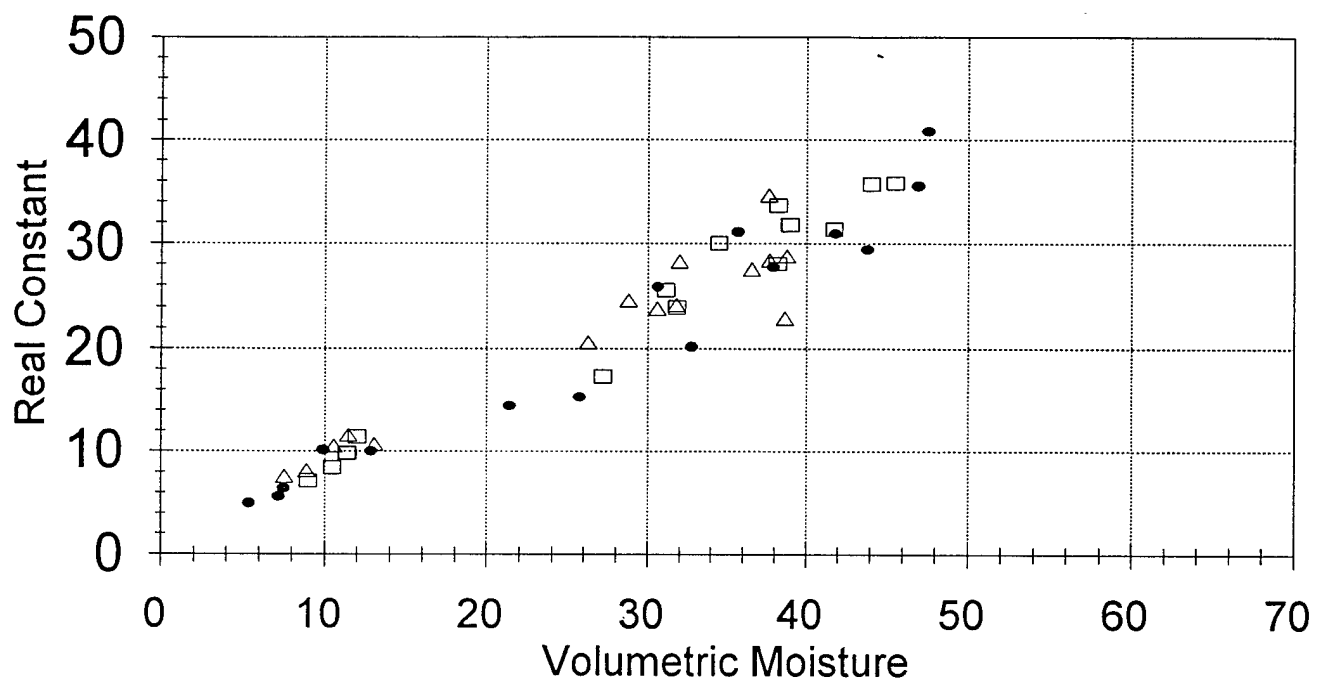


# Fort Carson\_3

## Properties at 50 MHz , All Depths

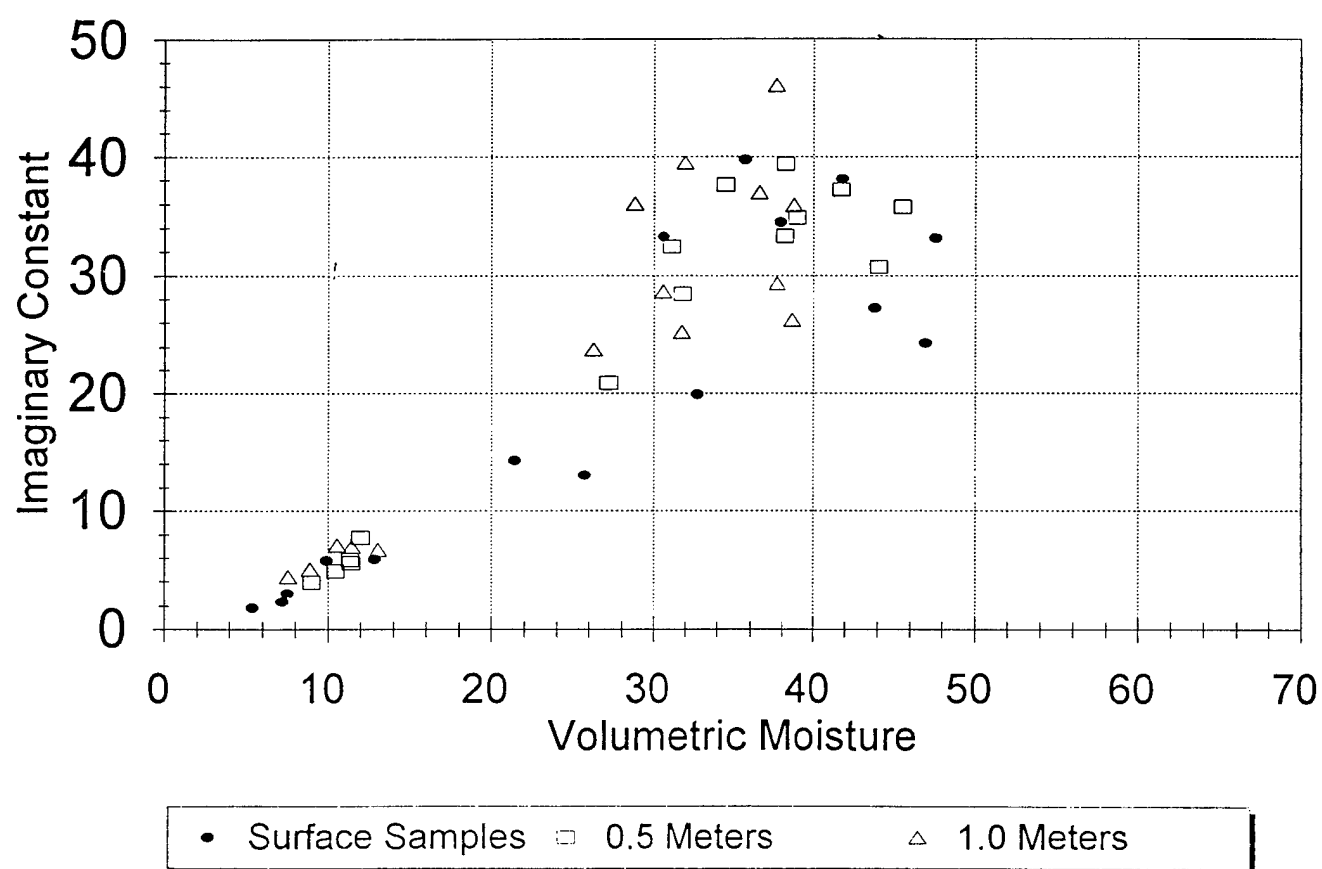


## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth

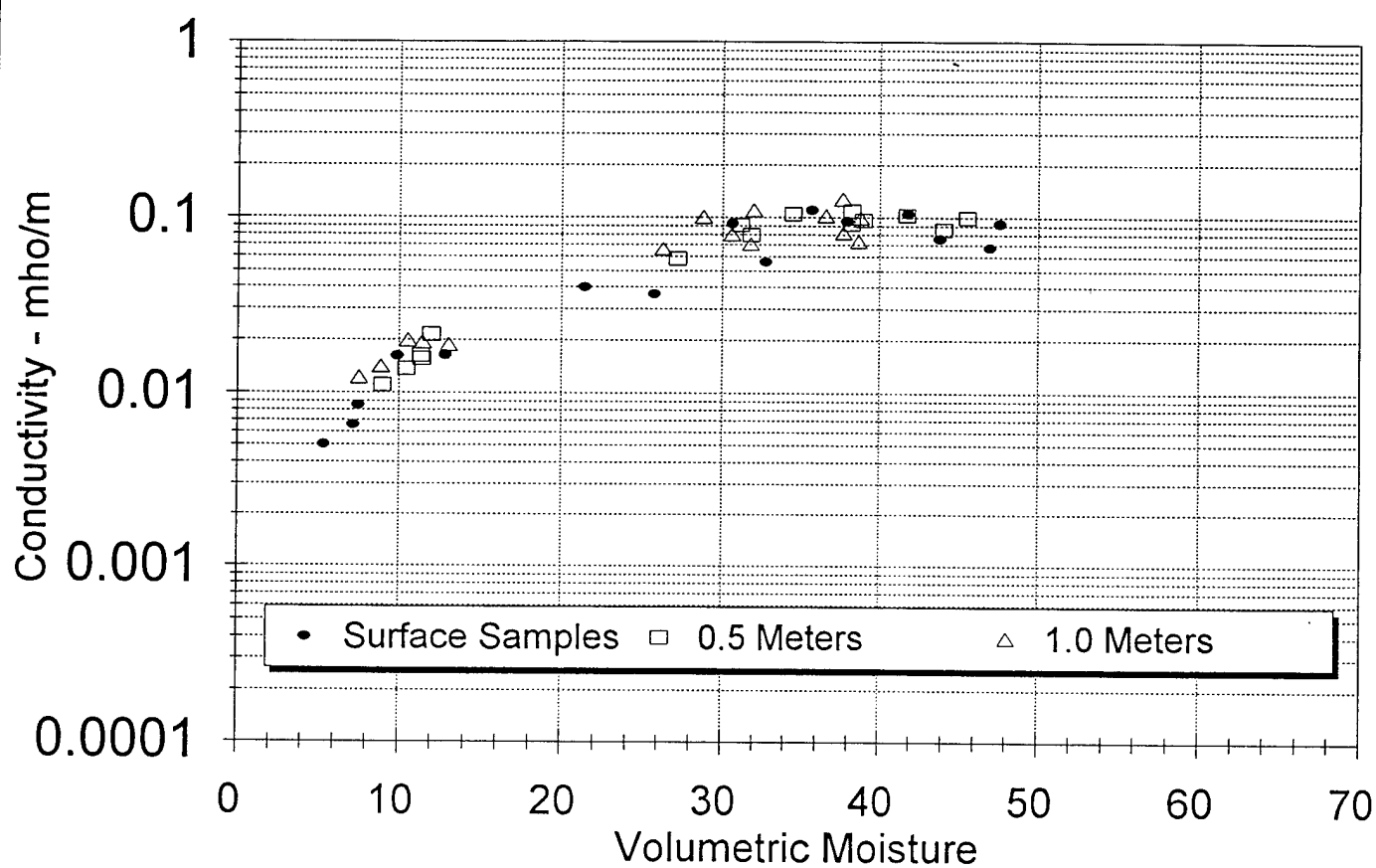


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

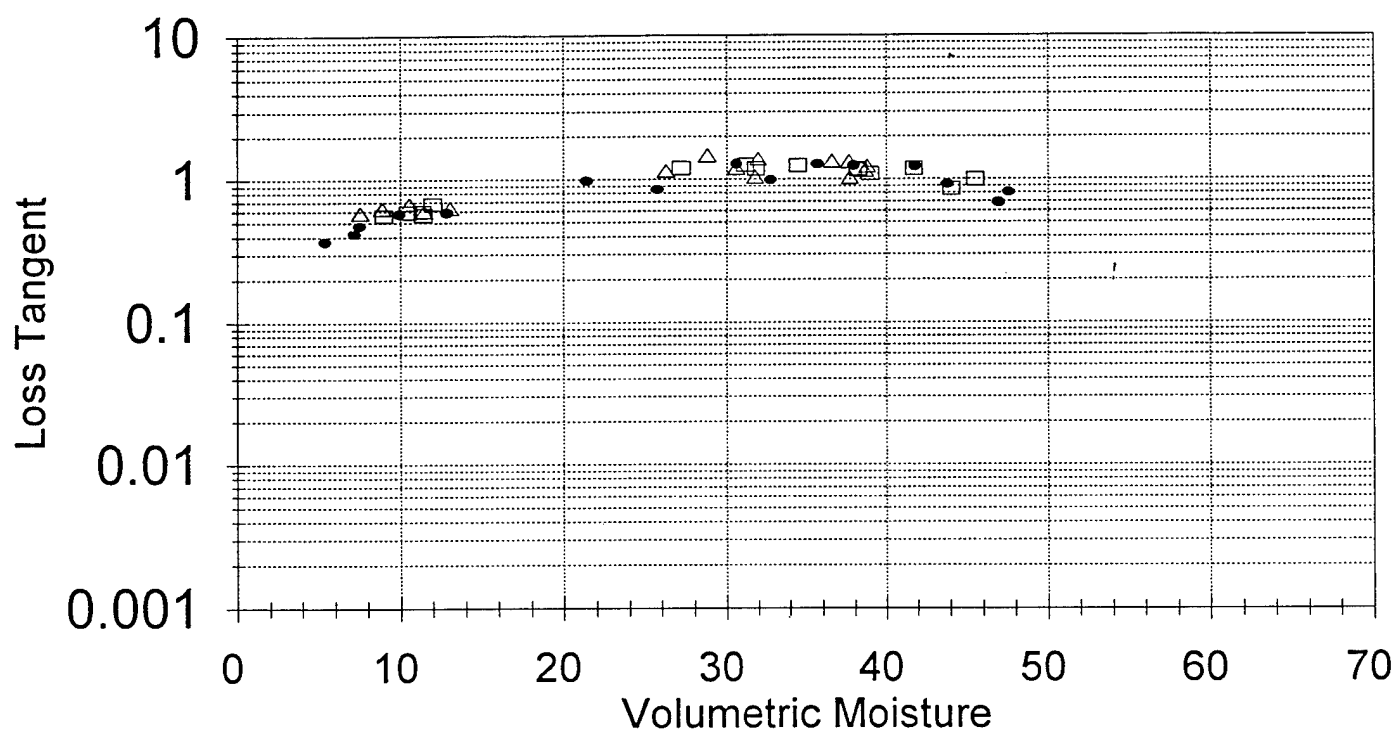
## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth



## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth



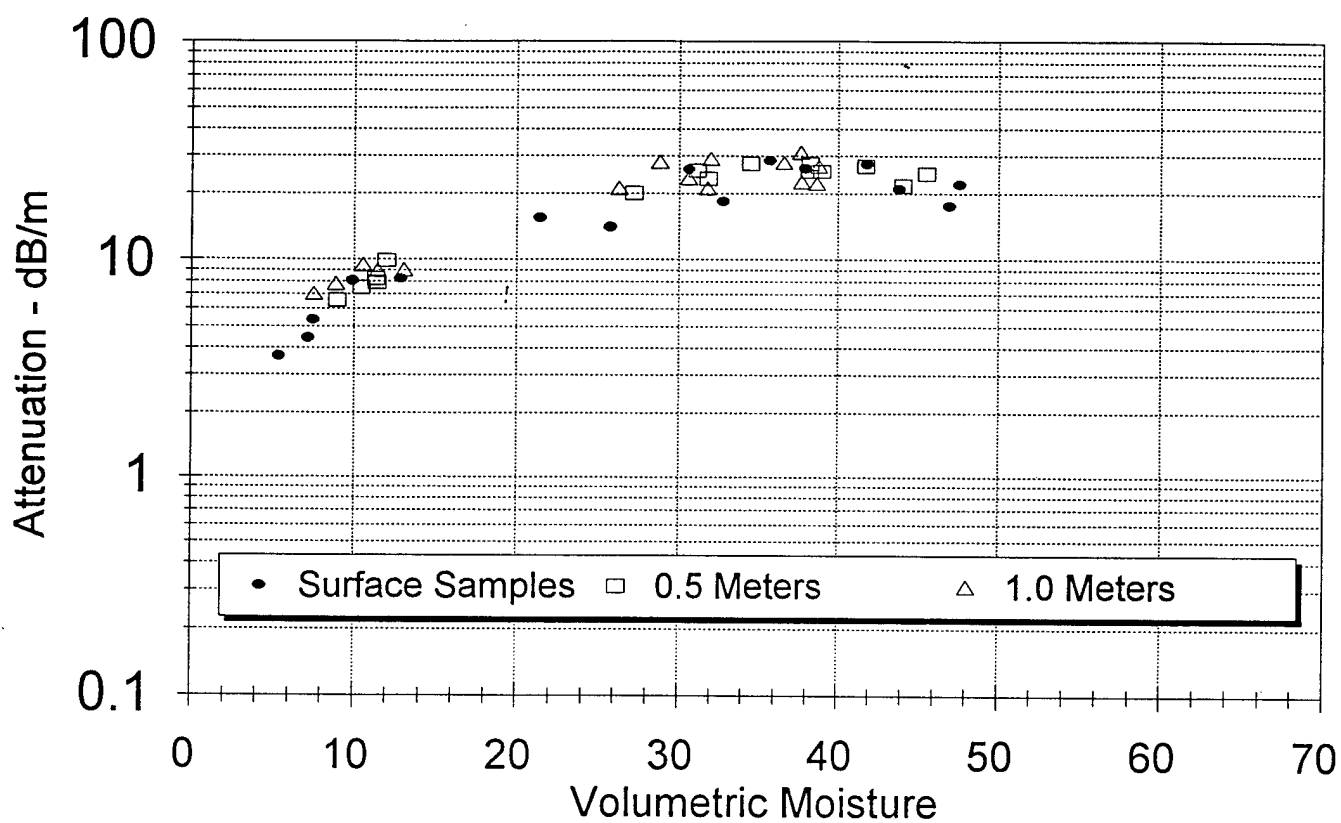
## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth



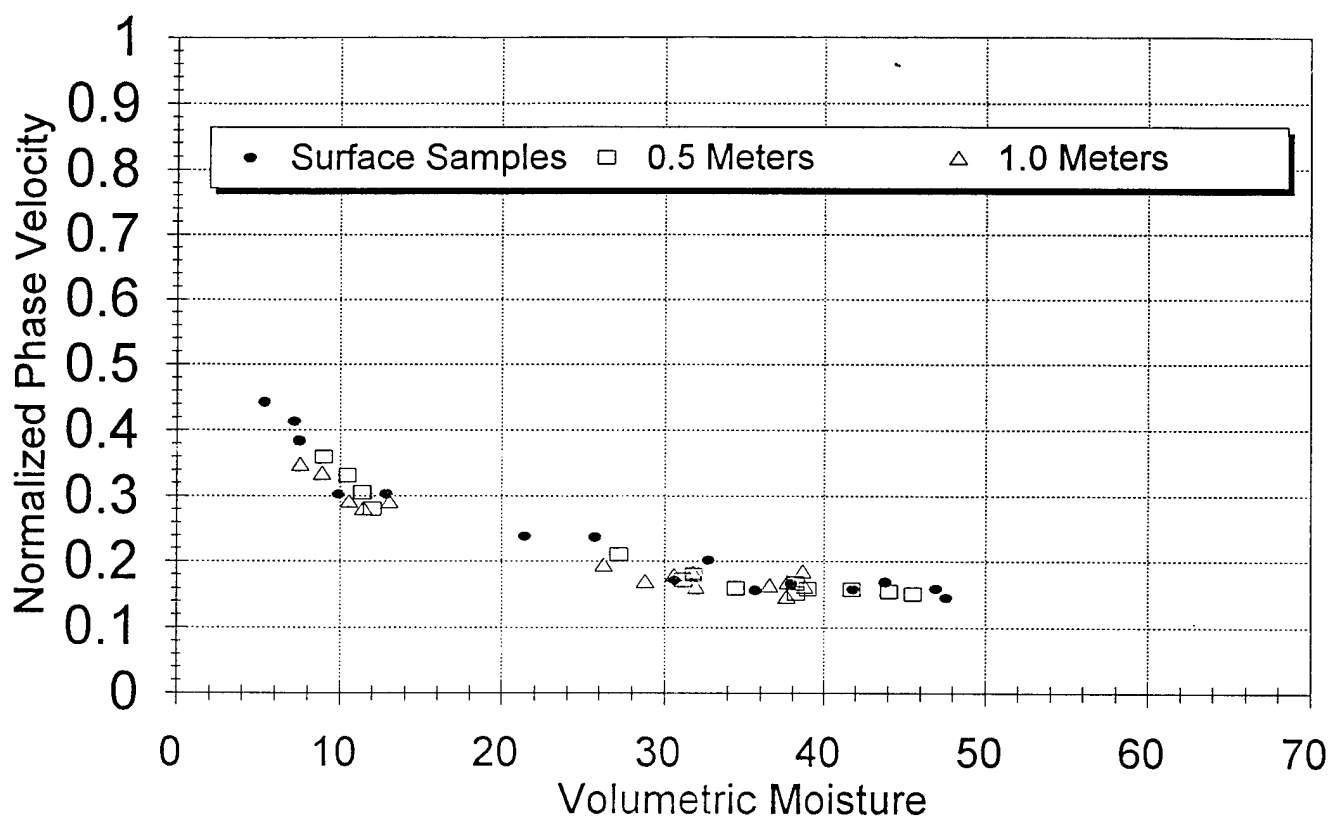
• Surface Samples    □ 0.5 Meters    △ 1.0 Meters



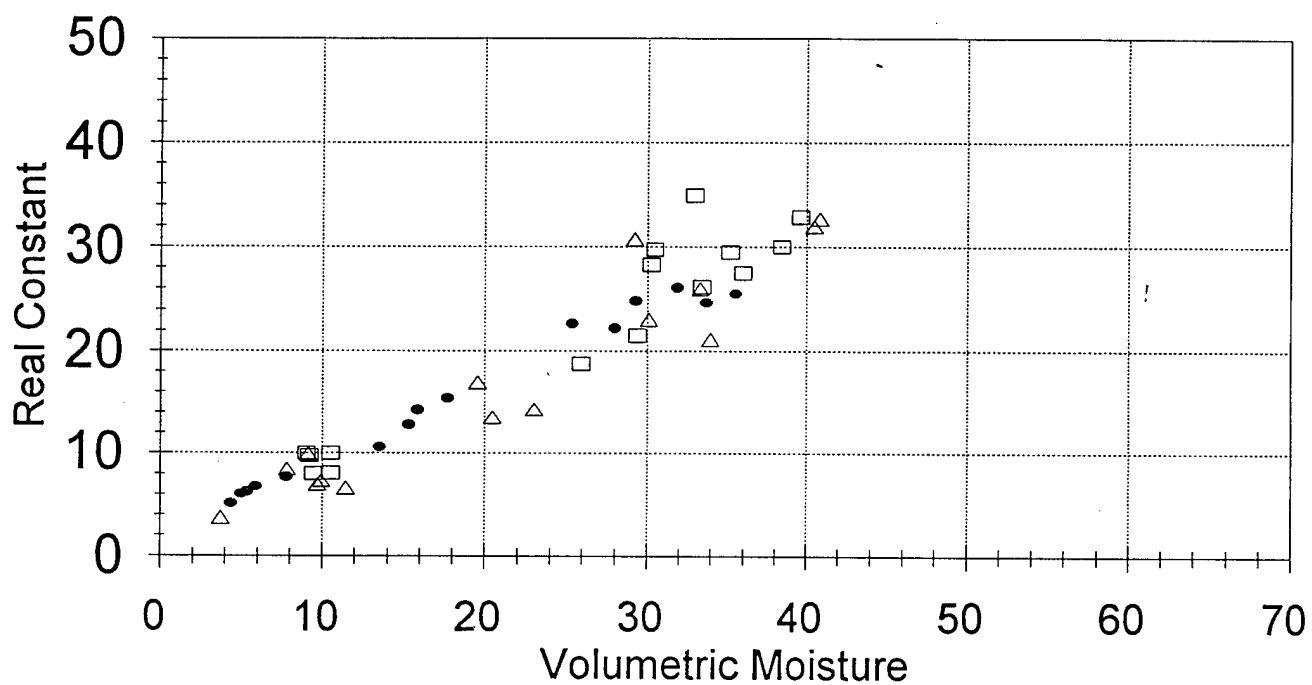
## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth



## Fort Carson\_3 , Seabee Test Site Properties at 50 MHz by Depth

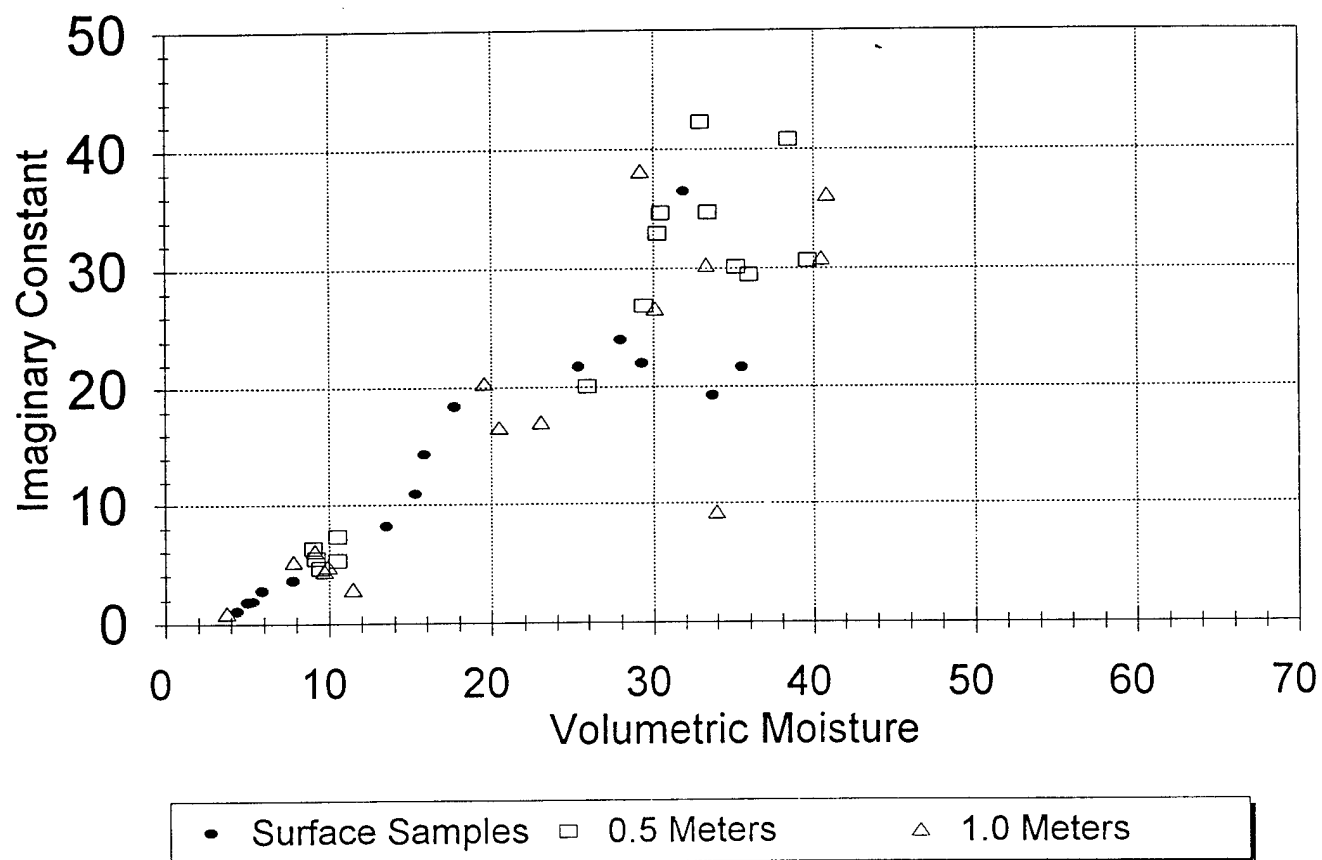


## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth

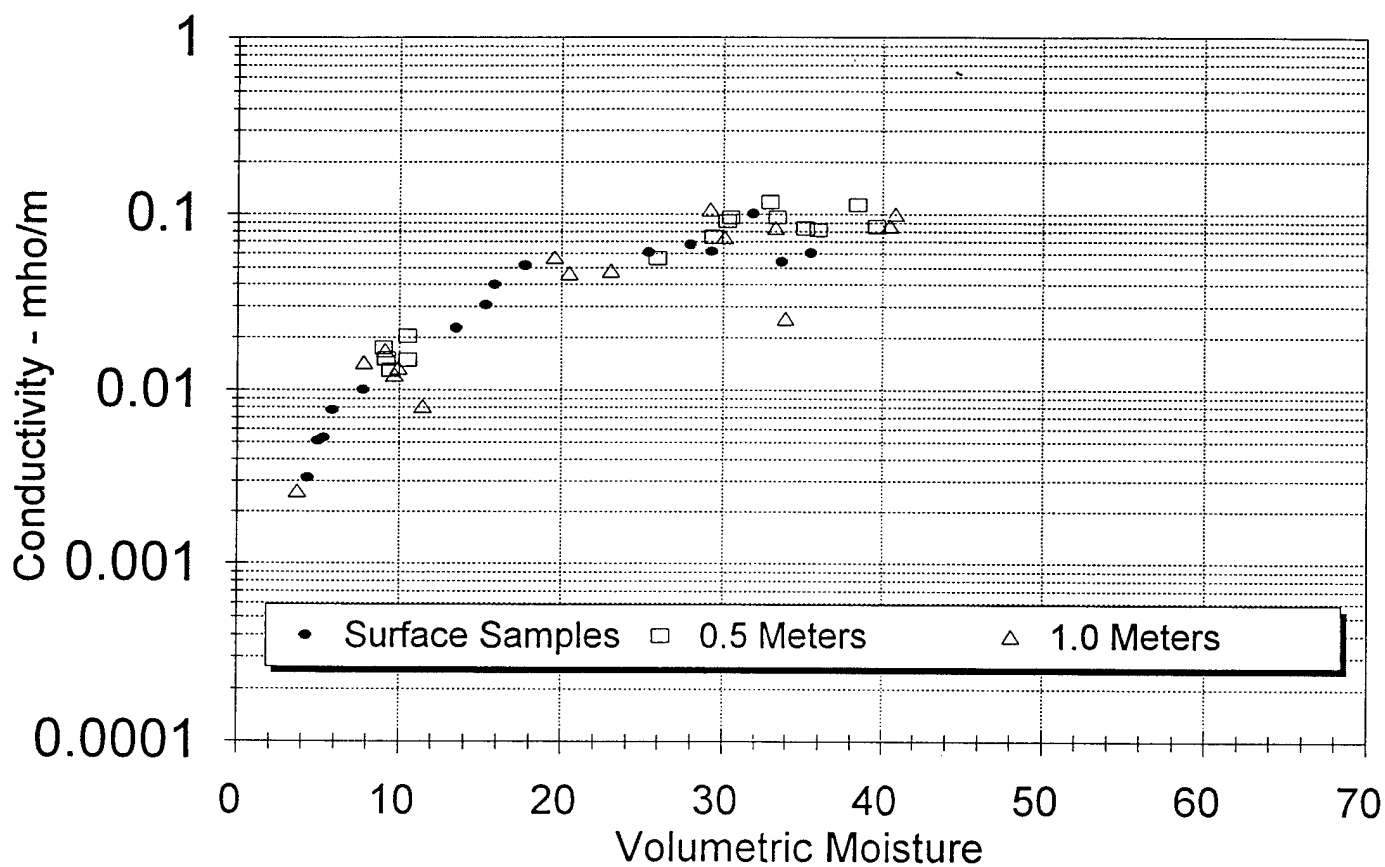


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

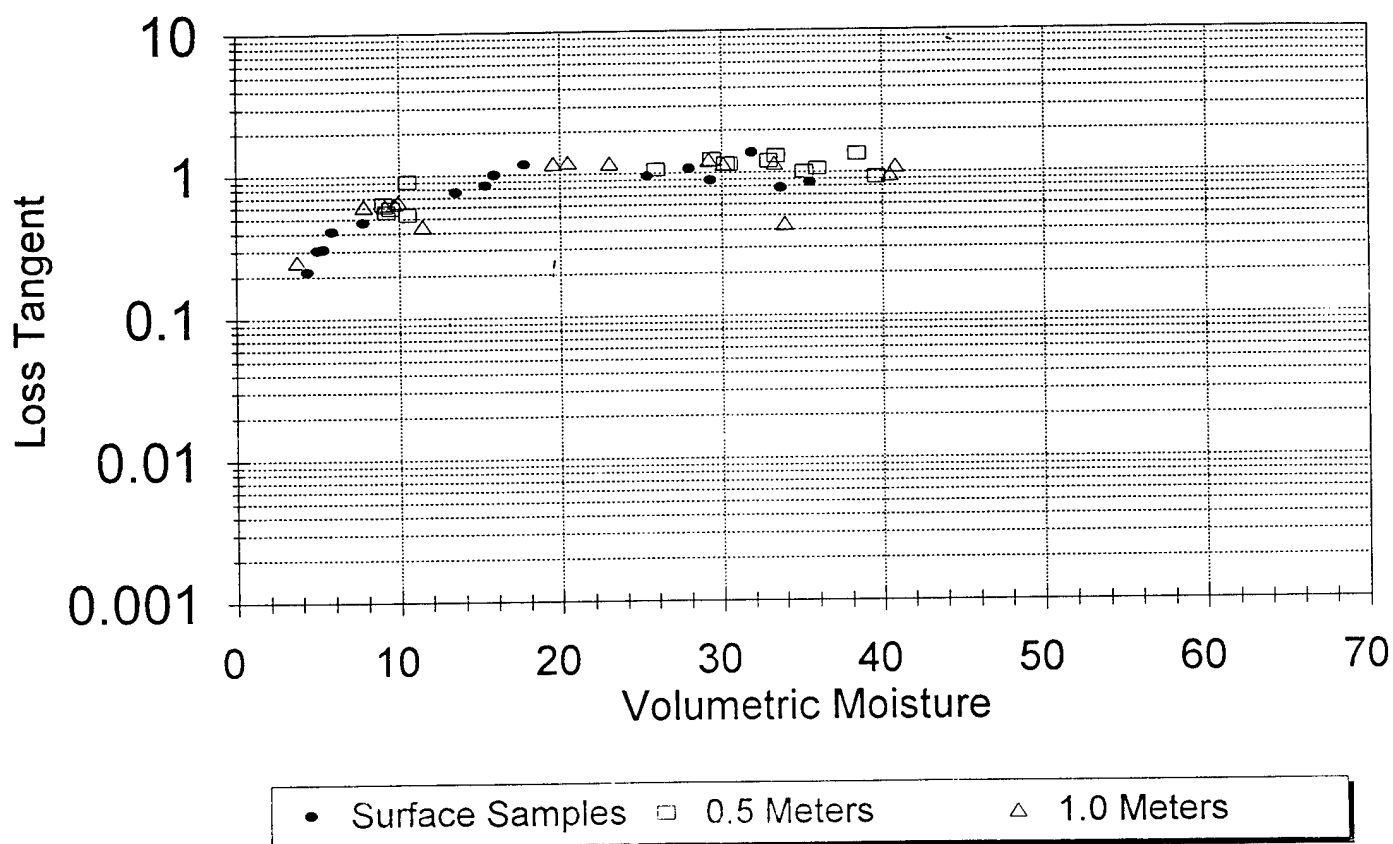
## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth



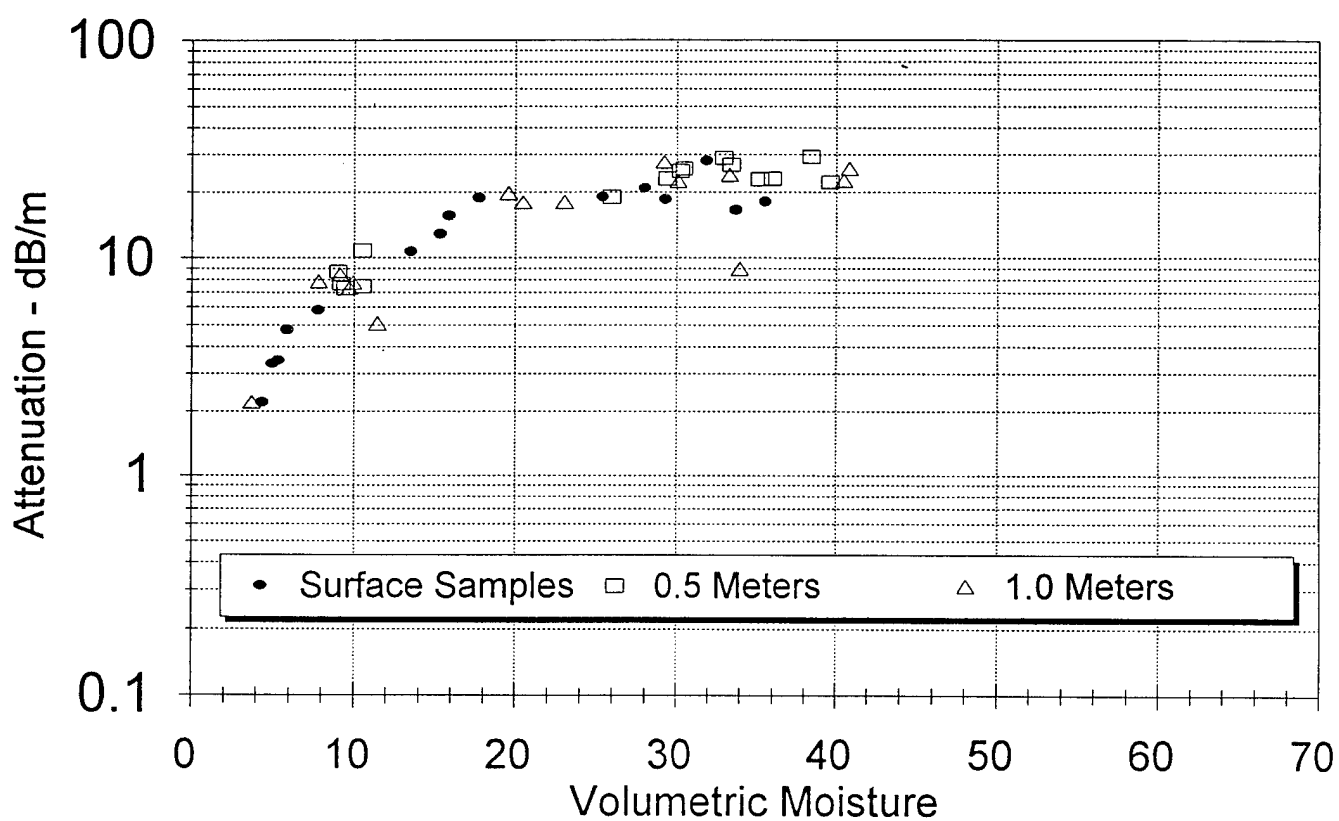
## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth



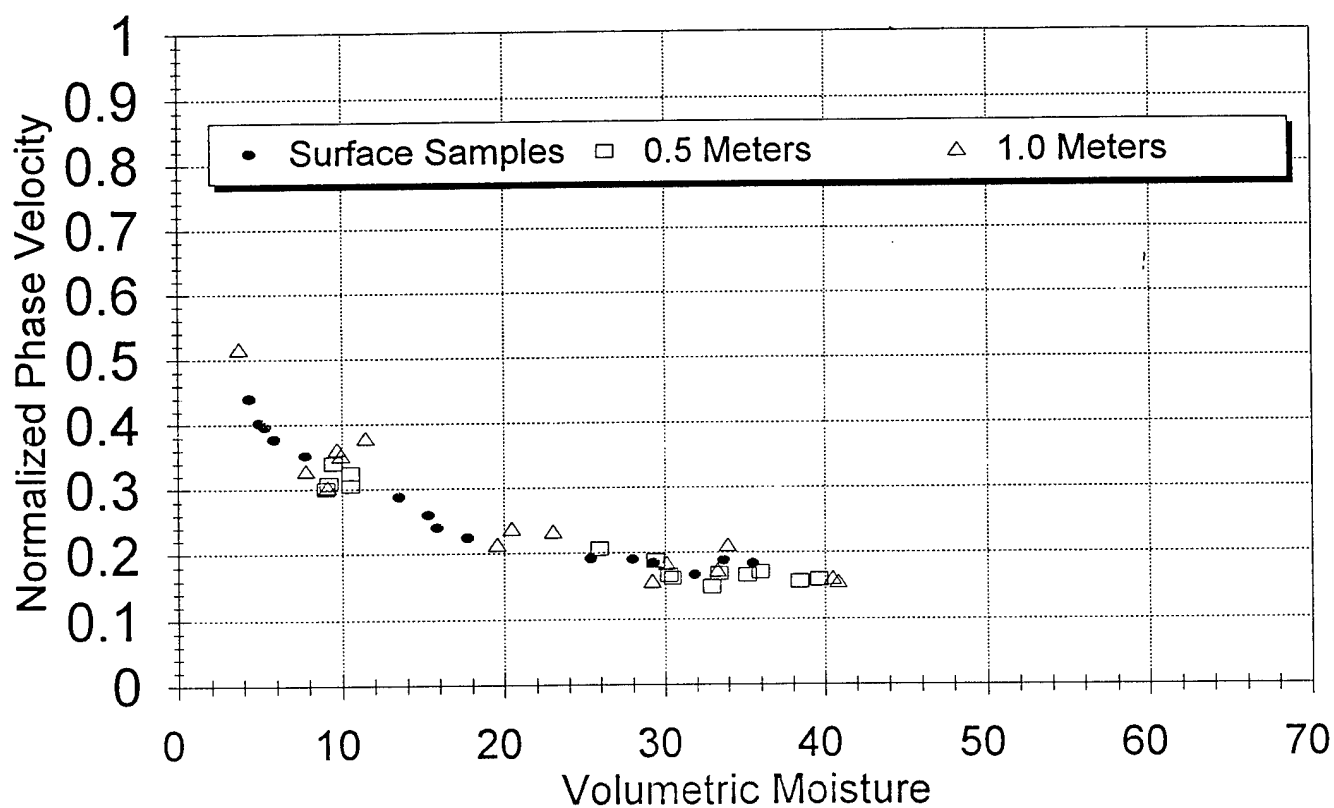
## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 50 MHz by Depth





Fort Carson\_3  
Properties at 100 Mhz

## Fort Carson\_3 Soil Properties at 100 MHz

## Seabee Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
SB8_17_S	12.90	1.712	8.49	4.09	0.0227	0.48	12.43	0.33
SB8_17_S	30.65	1.712	22.03	19.62	0.1091	0.89	35.16	0.20
SB8_17_S	41.83	1.712	26.49	22.80	0.1268	0.86	37.42	0.18
SB27.5_73_S	5.4	1.28	4.42	1.28	0.0071	0.29	5.49	0.47
SB27.5_73_S	25.77	1.28	13.81	7.81	0.0434	0.57	18.44	0.26
SB27.5_73_S	46.99	1.28	32.34	14.70	0.0818	0.45	22.96	0.17
SB65_10.5_S	7.2	1.399	5.05	1.65	0.0092	0.33	6.58	0.44
SB65_10.5_S	32.80	1.399	18.47	11.45	0.0636	0.62	23.22	0.22
SB65_10.5_S	43.83	1.399	26.90	15.81	0.0879	0.59	26.68	0.19
SB122_8_S	9.96	1.756	8.41	4.06	0.0226	0.48	12.40	0.34
SB122_8_S	35.74	1.756	26.47	23.40	0.1301	0.88	38.29	0.18
SB122_8_S	37.92	1.756	23.62	20.37	0.1132	0.86	35.39	0.19
SB123_97_S	7.50	1.336	5.52	2.16	0.012	0.39	8.20	0.42
SB123_97_S	21.41	1.336	12.34	8.82	0.049	0.71	21.63	0.27
SB123_97_S	47.63	1.336	35.53	20.66	0.1149	0.58	30.35	0.16
SB8_17_5	12.00	1.805	9.43	5.22	0.029	0.55	14.94	0.31
SB8_17_5	34.52	1.805	25.15	22.33	0.1242	0.89	37.47	0.18
SB8_17_5	38.17	1.805	23.38	20.15	0.112	0.86	35.19	0.19
SB27.5_73_5	9	1.498	6.15	2.72	0.0151	0.44	9.77	0.39
SB27.5_73_5	27.24	1.498	15.47	12.42	0.069	0.80	26.88	0.24
SB27.5_73_5	44.09	1.498	30.55	19.02	0.1058	0.62	30.00	0.17
SB65_10.5_5	10.49	1.534	7.17	3.40	0.0189	0.47	11.25	0.36
SB65_10.5_5	31.84	1.534	20.82	16.79	0.0934	0.81	31.32	0.21
SB65_10.5_5	45.55	1.534	30.53	21.69	0.1206	0.71	33.84	0.17
SB122_8_5	11.42	1.687	8.32	3.93	0.0218	0.47	12.08	0.34
SB122_8_5	38.96	1.687	26.63	21.10	0.1173	0.79	34.87	0.18
SB122_8_5	41.75	1.687	26.72	22.03	0.1225	0.82	36.18	0.18
SB123_97_5	11.40	1.662	8.20	4.06	0.0226	0.49	12.53	0.34
SB123_97_5	31.12	1.662	21.40	19.37	0.1077	0.91	35.14	0.20
SB123_97_5	38.23	1.662	28.32	24.04	0.1337	0.85	38.22	0.17
SB8_17_1	10.56	1.823	8.86	4.73	0.0263	0.53	13.99	0.33
SB8_17_1	32.01	1.823	24.35	22.82	0.1269	0.94	38.63	0.19
SB8_17_1	36.56	1.823	23.77	21.65	0.1204	0.91	37.23	0.19
SB27.5_73_1	7.58	1.587	6.48	2.98	0.0166	0.46	10.40	0.38
SB27.5_73_1	26.31	1.587	17.64	14.03	0.078	0.80	28.47	0.22
SB27.5_73_1	31.81	1.587	20.62	15.27	0.0849	0.74	28.87	0.21
SB65_10.5_1	8.92	1.685	6.98	3.40	0.0189	0.49	11.40	0.37
SB65_10.5_1	30.6	1.685	20.85	16.56	0.0921	0.79	30.92	0.21
SB65_10.5_1	37.71	1.685	24.28	17.58	0.0978	0.72	30.70	0.19
SB122_8_1	11.46	1.746	9.51	4.87	0.0271	0.51	13.94	0.31
SB122_8_1	37.67	1.746	28.68	27.23	0.1514	0.95	42.41	0.17
SB122_8_1	38.78	1.746	23.93	21.38	0.1189	0.89	36.75	0.19
SB123_97_1	13.10	1.642	8.77	4.69	0.0261	0.53	13.94	0.33
SB123_97_1	28.79	1.642	19.93	21.61	0.1202	1.08	39.59	0.20
SB123_97_1	38.62	1.642	18.28	16.63	0.0925	0.91	32.63	0.22

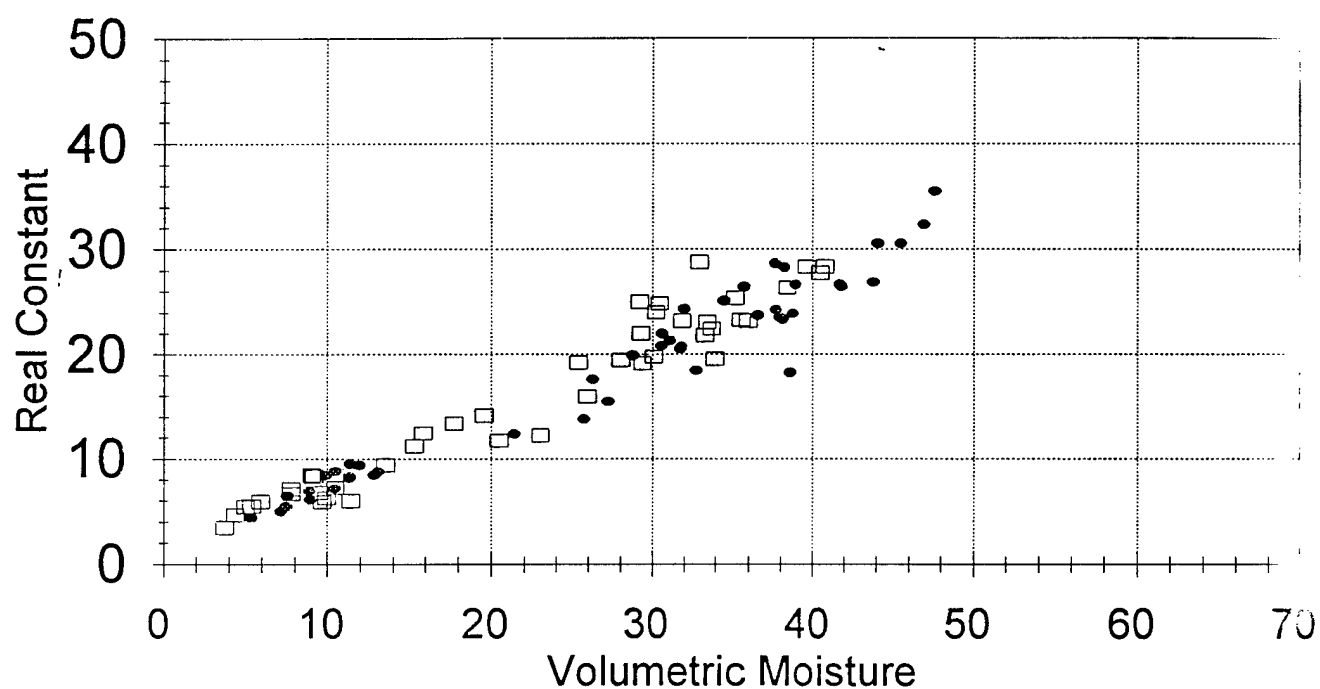
## Fort Carson\_3 Soil Properties at 100 MHz

## Turkey Creek Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
TC8_17_S	5.92	1.805	5.98	1.93	0.0107	0.32	7.10	0.40
TC8_17_S	15.89	1.805	12.45	8.62	0.0479	0.69	21.11	0.27
TC8_17_S	29.29	1.805	22.07	13.31	0.074	0.60	24.75	0.20
TC27.5_73_S	5.36	1.796	5.59	1.42	0.0079	0.25	5.42	0.42
TC27.5_73_S	17.77	1.796	13.40	10.88	0.0605	0.81	25.28	0.26
TC27.5_73_S	31.89	1.796	23.25	20.37	0.1133	0.88	35.60	0.19
TC65_10.5_S	4.38	1.772	4.71	0.82	0.0046	0.17	3.42	0.46
TC65_10.5_S	13.55	1.772	9.44	5.04	0.028	0.53	14.44	0.32
TC65_10.5_S	33.76	1.772	22.49	11.30	0.0629	0.50	21.06	0.20
TC122_8_S	5.02	1.749	5.45	1.33	0.0074	0.24	5.13	0.43
TC122_8_S	15.35	1.749	11.21	6.63	0.0369	0.59	17.33	0.29
TC122_8_S	35.55	1.749	23.35	12.68	0.0705	0.54	23.09	0.20
TC123_97_S	7.81	1.931	6.73	2.49	0.0139	0.37	8.60	0.38
TC123_97_S	25.39	1.931	19.23	13.15	0.0731	0.68	25.93	0.22
TC123_97_S	28	1.931	19.49	14.02	0.0779	0.72	27.33	0.21
TC8_17_.5	9.06	1.814	8.49	4.27	0.0238	0.50	12.96	0.33
TC8_17_.5	30.24	1.814	24.04	19.81	0.1102	0.82	34.30	0.19
TC8_17_.5	36	1.814	23.26	18.11	0.1007	0.78	32.08	0.19
TC27.5_73_.5	9.51	1.424	6.80	3.21	0.0178	0.47	10.90	0.37
TC27.5_73_.5	25.93	1.424	15.96	12.32	0.0685	0.77	26.37	0.24
TC27.5_73_.5	39.64	1.424	28.39	18.60	0.1034	0.66	30.31	0.18
TC65_10.5_.5	10.53	1.621	7.27	4.51	0.0251	0.62	14.59	0.36
TC65_10.5_.5	29.38	1.621	19.18	16.00	0.089	0.83	30.97	0.21
TC65_10.5_.5	35.16	1.621	25.39	18.05	0.1004	0.71	30.88	0.19
TC122_8_.5	32.98	1.839	28.81	25.73	0.1431	0.89	40.31	0.17
TC122_8_.5	38.43	1.839	26.40	23.92	0.133	0.91	39.07	0.18
TC122_8_.5	10.51	1.839	8.49	3.76	0.0209	0.44	11.47	0.34
TC123_97_.5	9.24	1.932	8.37	3.74	0.0208	0.45	11.50	0.34
TC123_97_.5	30.47	1.932	24.89	20.60	0.1145	0.83	35.03	0.19
TC123_97_.5	33.45	1.932	23.16	20.11	0.1118	0.87	35.26	0.19
TC8_17_1	7.83	1.741	7.18	3.52	0.0196	0.49	11.62	0.36
TC8_17_1	19.54	1.741	14.19	12.29	0.0683	0.87	27.54	0.25
TC8_17_1	30.1	1.741	19.83	16.08	0.0894	0.81	30.71	0.21
TC27.5_73_1	9.70	1.394	5.93	3.02	0.0168	0.51	10.94	0.40
TC27.5_73_1	23.03	1.394	12.26	10.31	0.0573	0.84	24.95	0.27
TC27.5_73_1	40.82	1.394	28.41	21.38	0.1189	0.75	34.40	0.18
TC65_10.5_1	9.96	1.344	6.29	3.23	0.018	0.51	11.38	0.39
TC65_10.5_1	20.45	1.344	11.74	10.02	0.0557	0.85	24.72	0.27
TC65_10.5_1	40.47	1.344	27.78	18.91	0.1052	0.68	31.05	0.18
TC122_8_1	9.15	1.854	8.37	4.16	0.0231	0.50	12.71	0.34
TC122_8_1	29.19	1.854	25.07	23.03	0.1281	0.92	38.53	0.18
TC122_8_1	33.32	1.854	21.91	18.32	0.1019	0.84	33.17	0.20
TC123_97_1	3.76	1.693	3.49	0.70	0.0039	0.20	3.39	0.53
TC123_97_1	11.46	1.693	6.04	1.91	0.0106	0.32	6.98	0.40
TC123_97_1	33.98	1.693	19.63	5.51	0.0307	0.28	11.21	0.22

# Fort Carson\_3

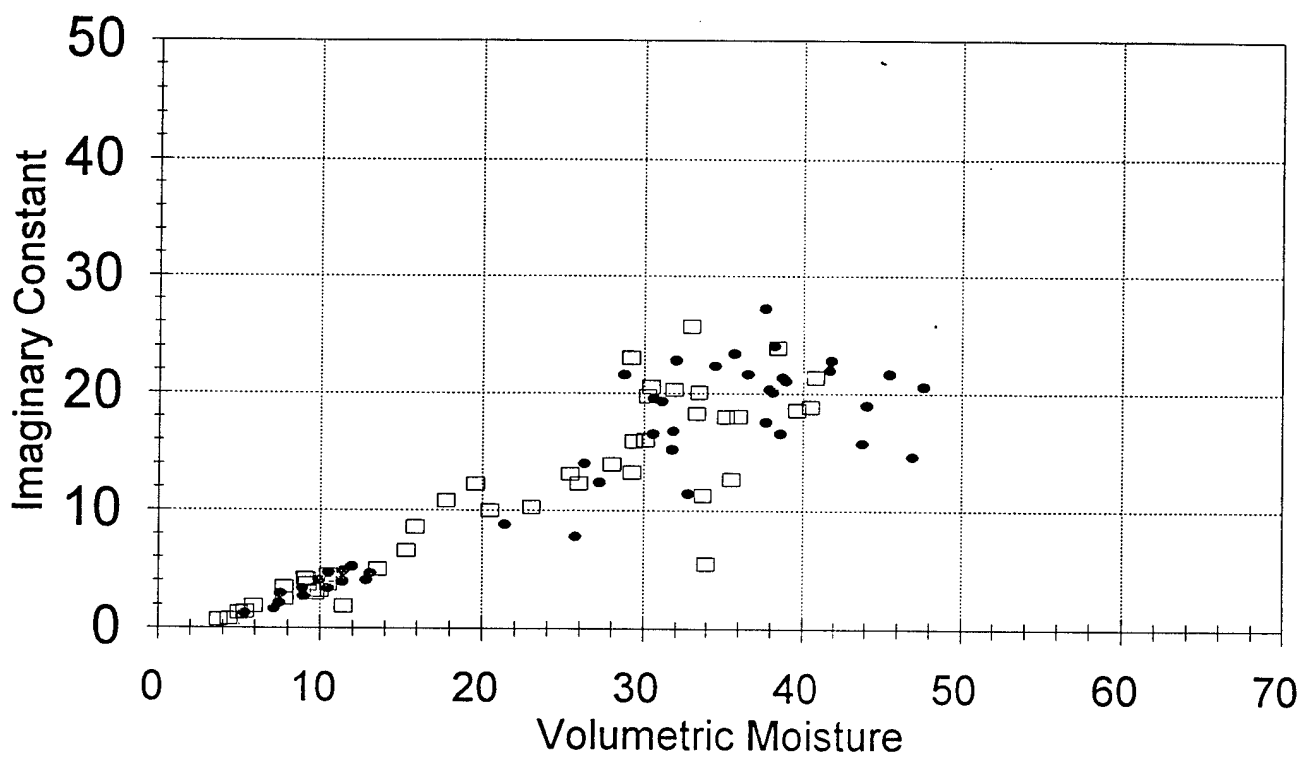
## Properties at 100 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

# Fort Carson\_3

## Properties at 100 MHz , All Depths

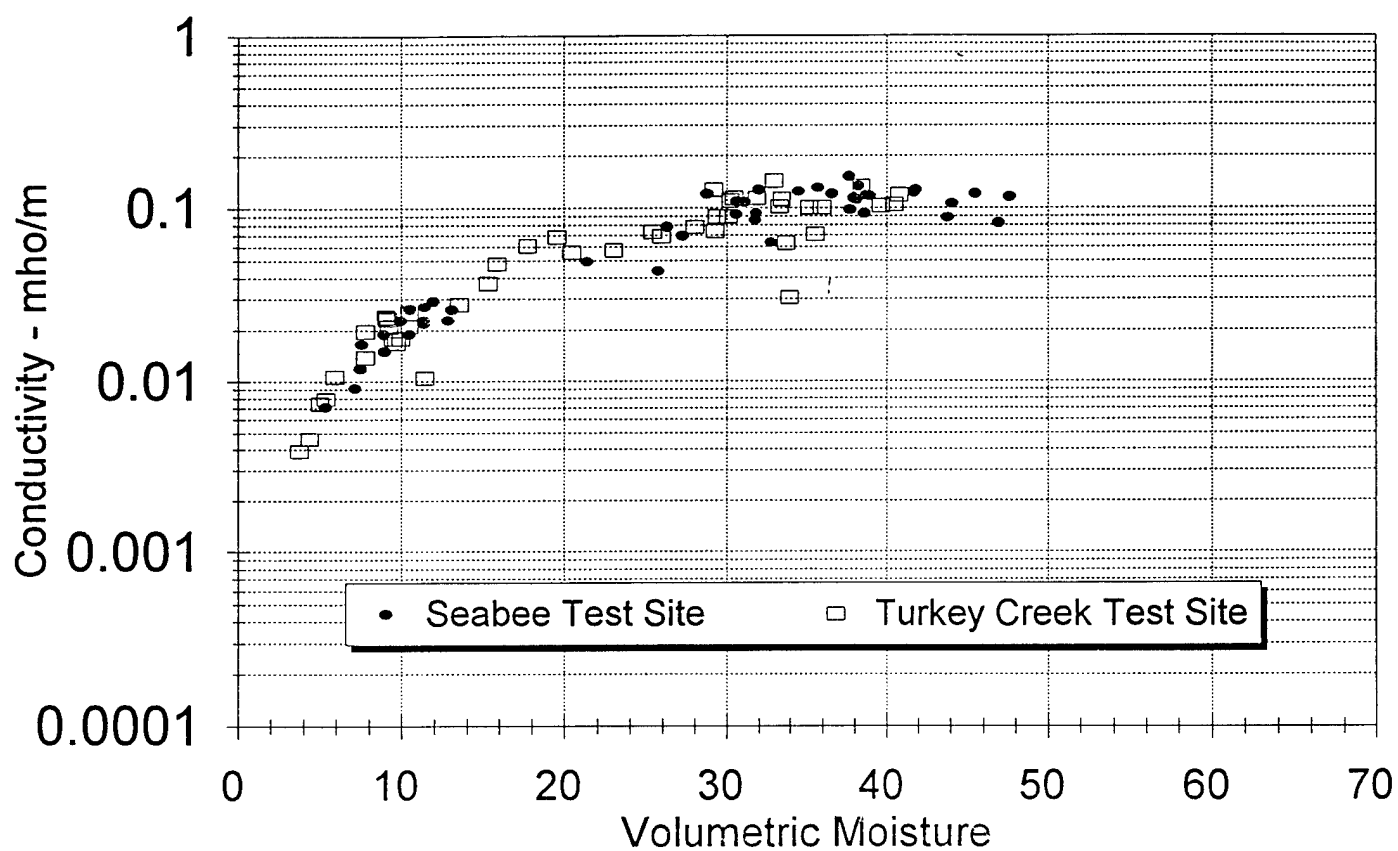


• Seabee Test Site

□ Turkey Creek Test Site

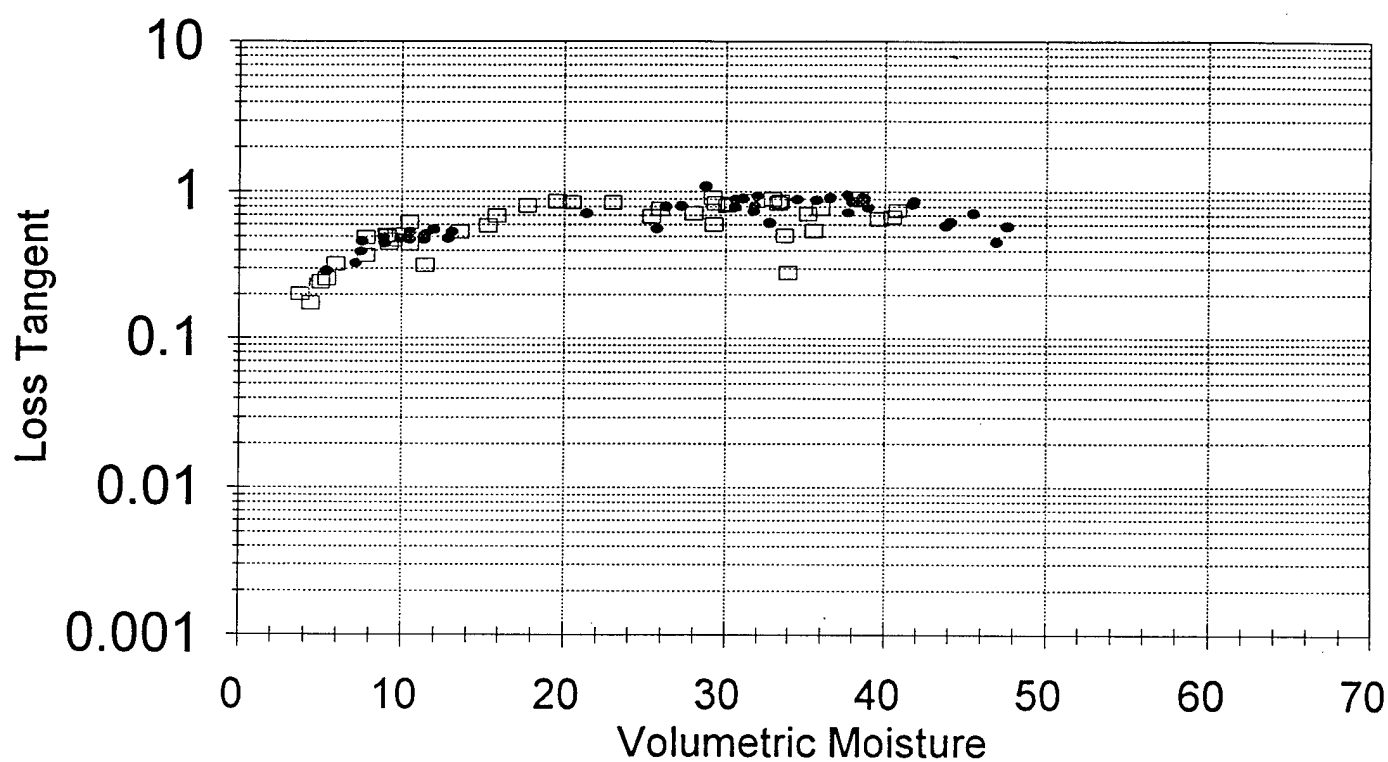
# Fort Carson\_3

## Properties at 100 MHz , All Depths



# Fort Carson\_3

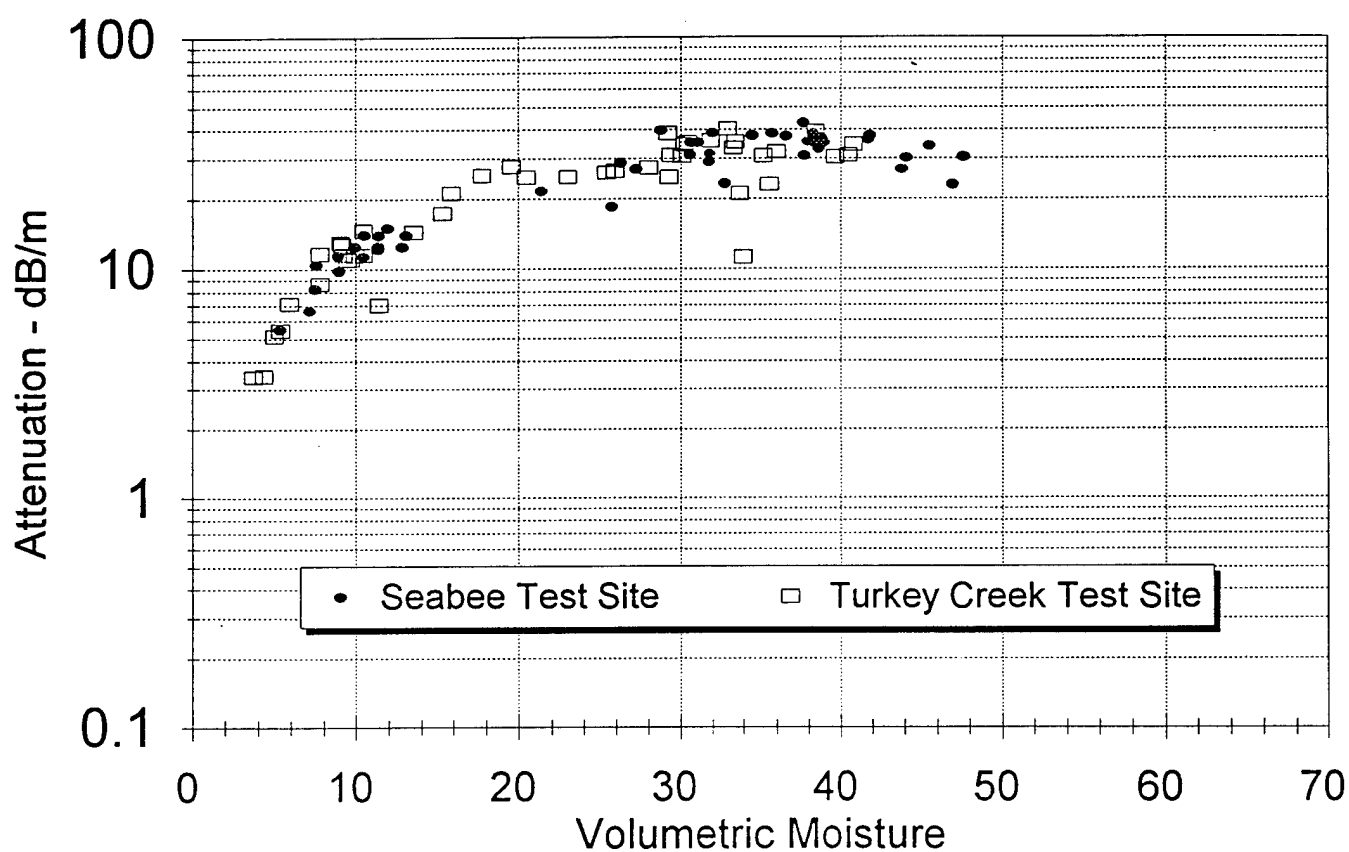
## Properties at 100 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

# Fort Carson\_3

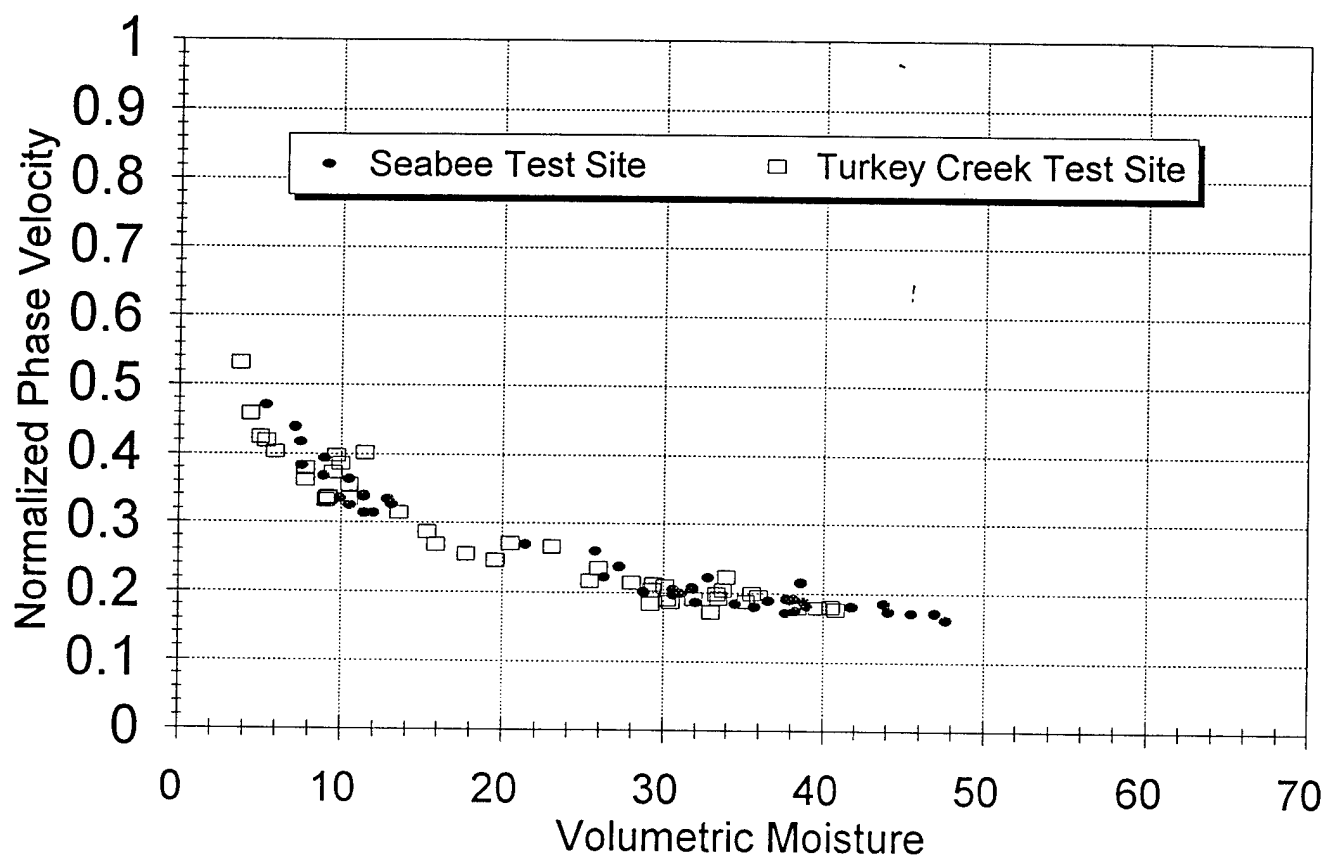
## Properties at 100 MHz , All Depths



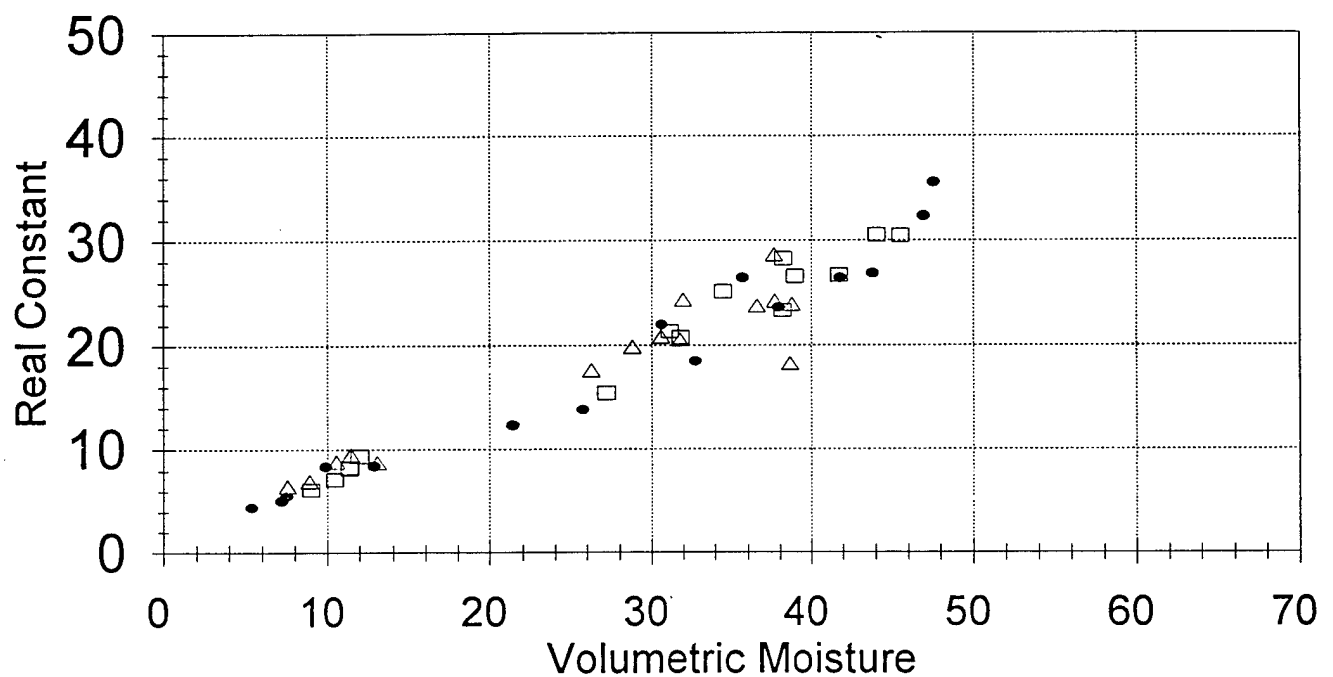


# Fort Carson\_3

## Properties at 100 MHz , All Depths

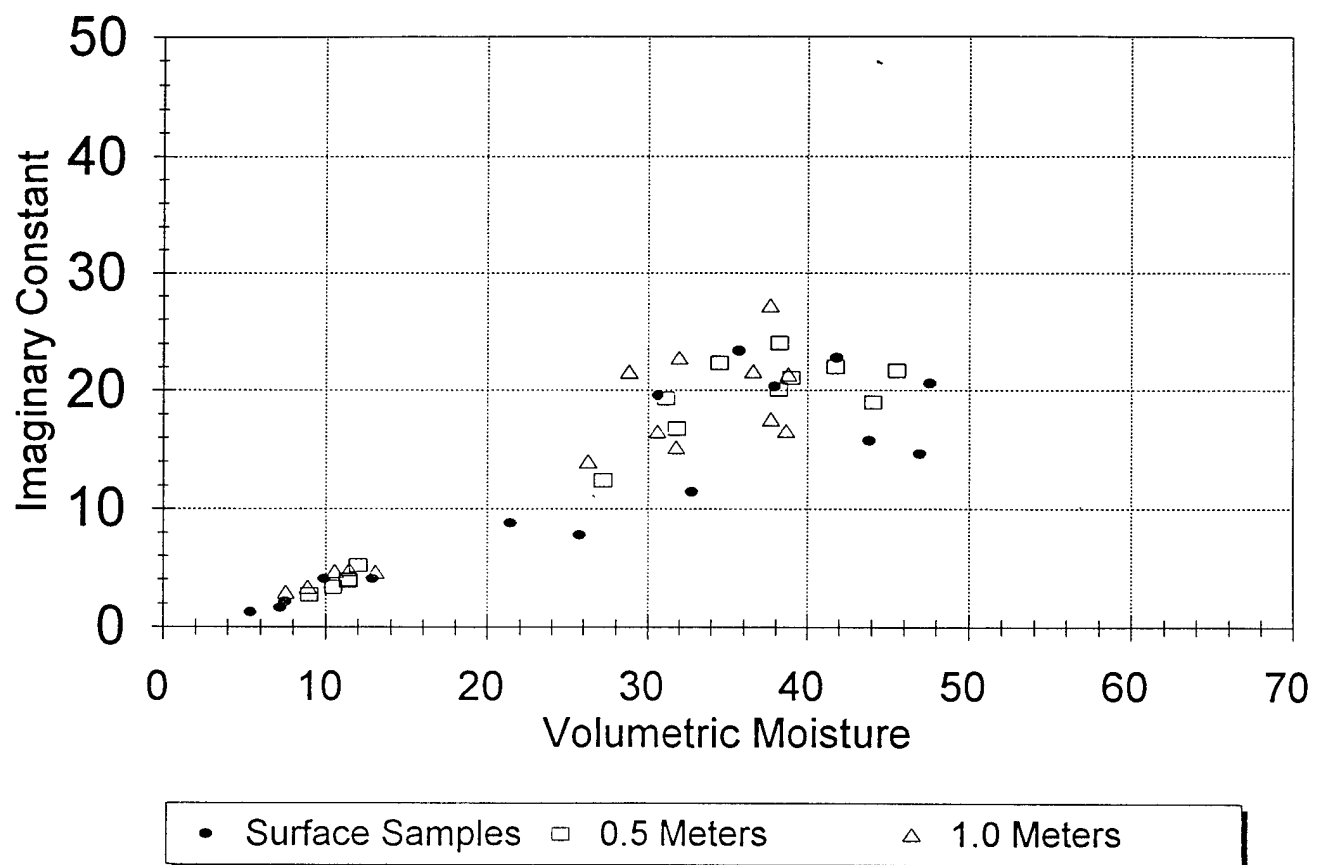


## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth

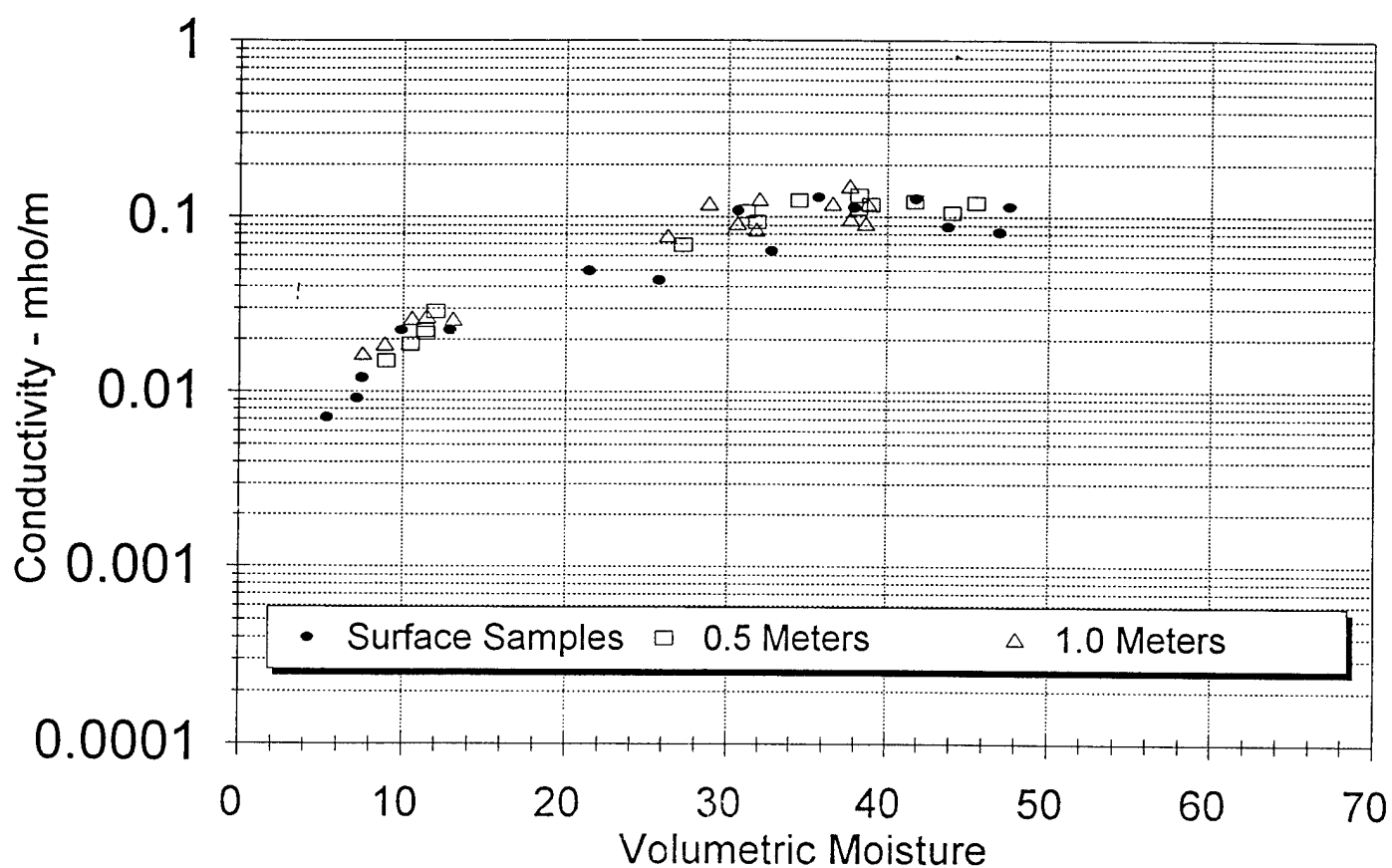


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

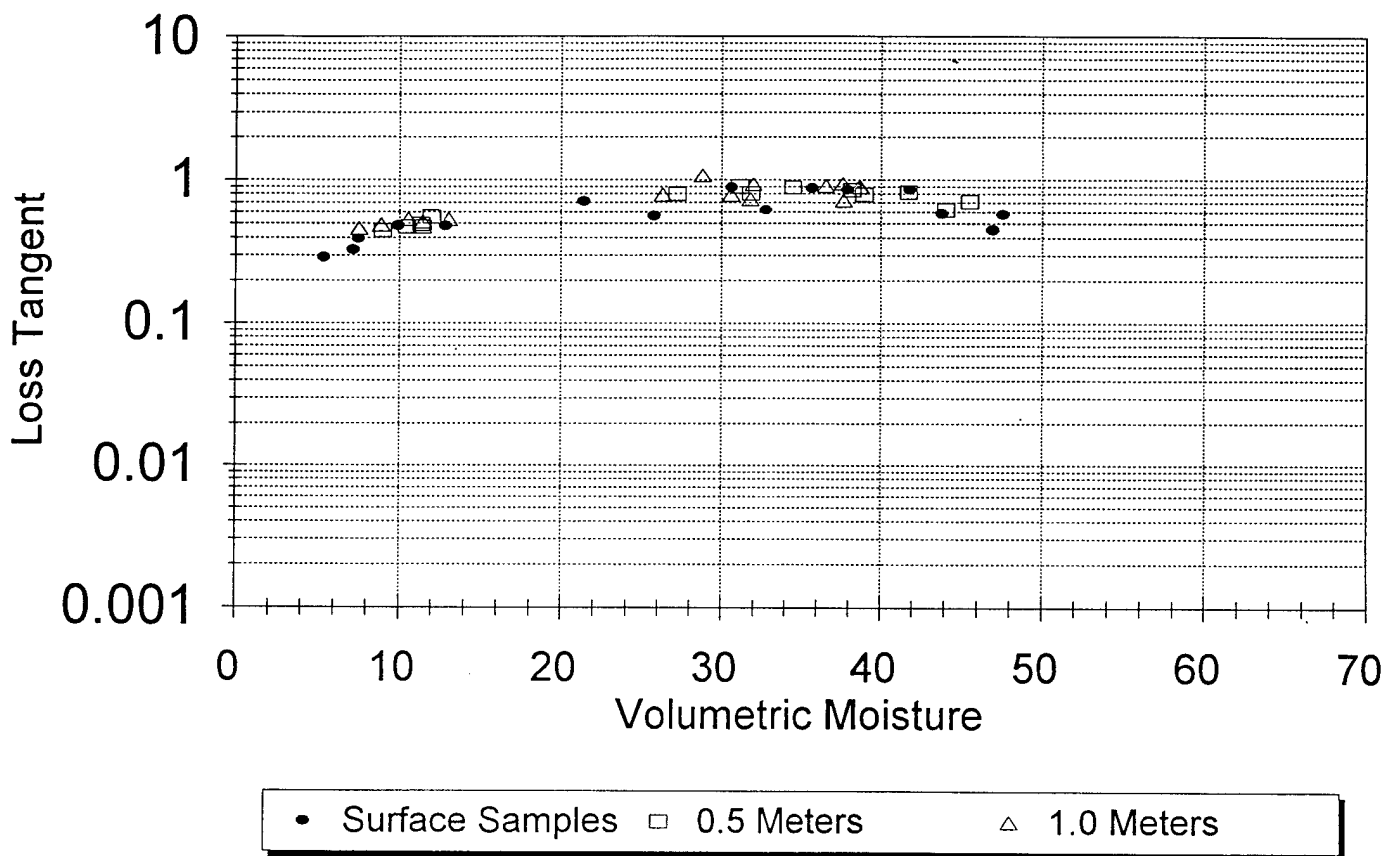
## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth



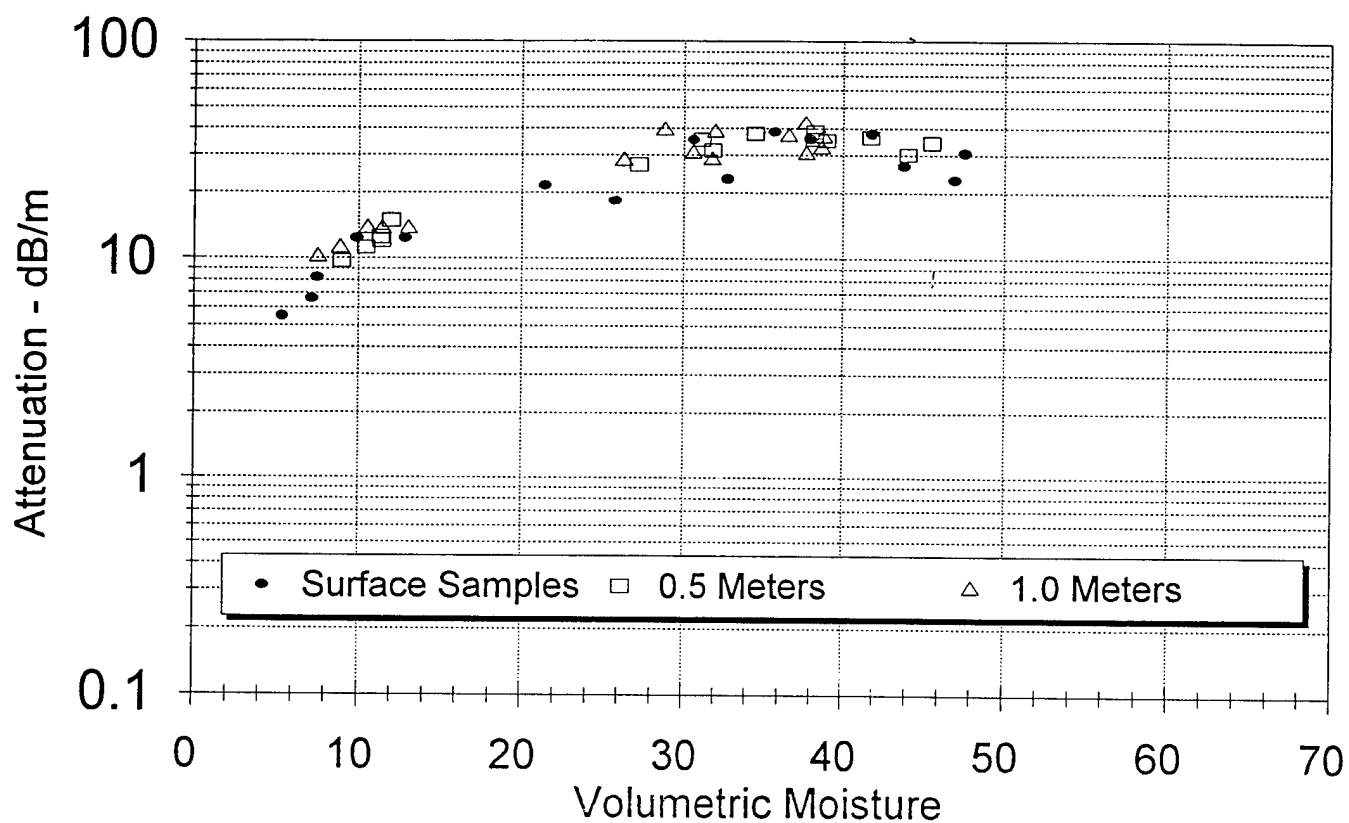
## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth



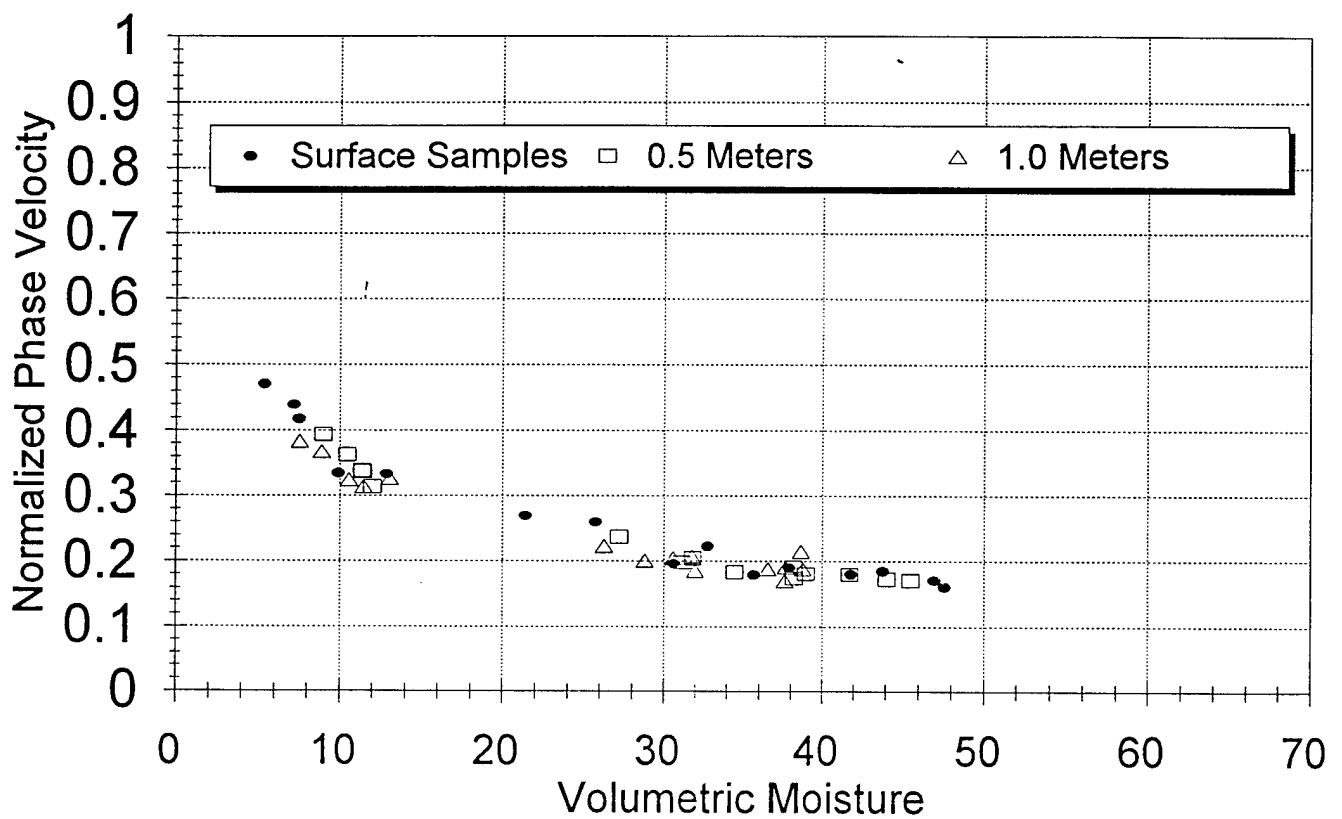
## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth



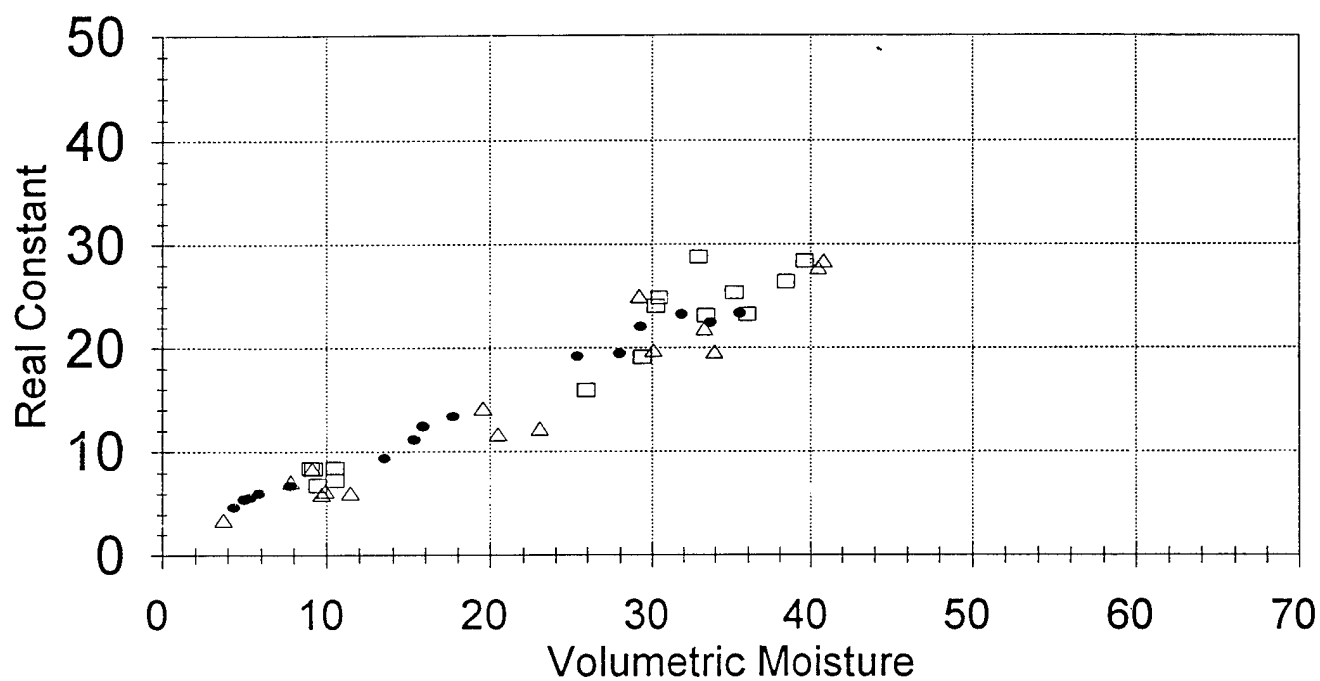
## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth



## Fort Carson\_3 , Seabee Test Site Properties at 100 MHz by Depth



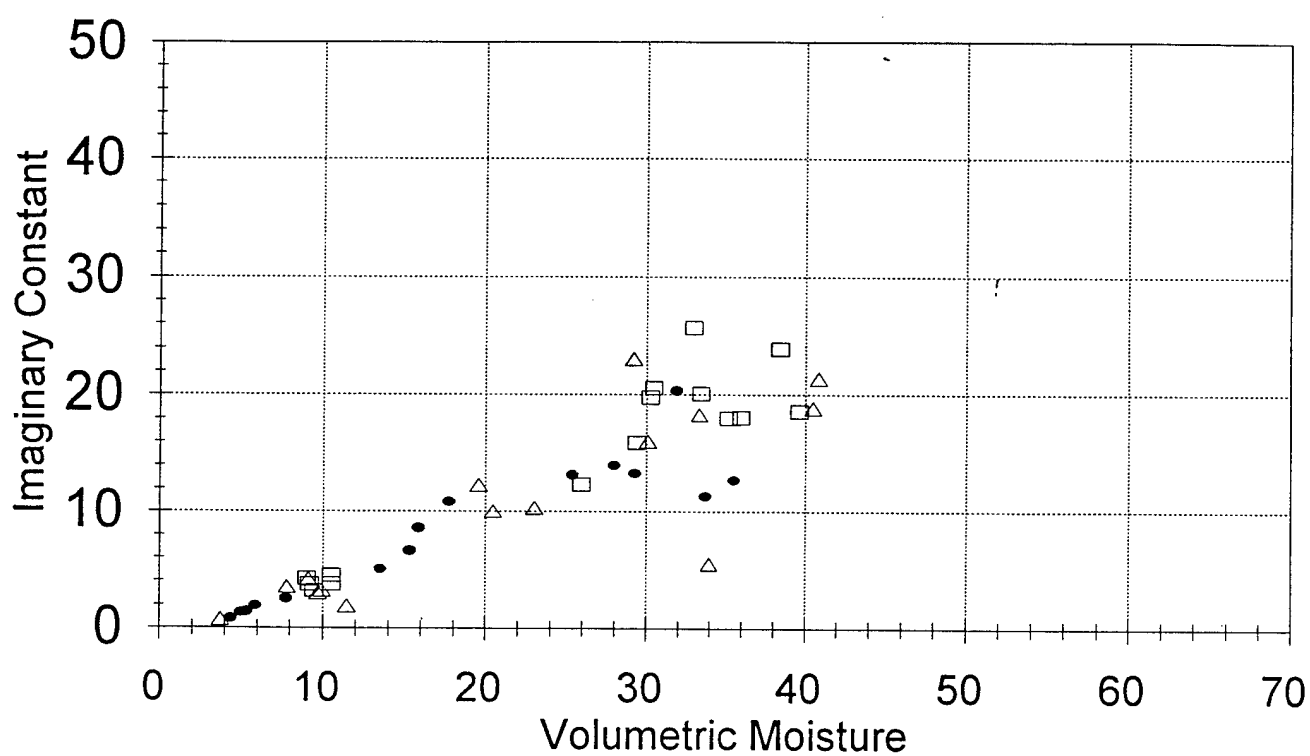
## Fort Carson\_3 , Turkey Creek Test Site Properties at 100 MHz by Depth



• Surface Samples    □ 0.5 Meters    △ 1.0 Meters



## Fort Carson\_3 , Turkey Creek Test Site Properties at 100 MHz by Depth



• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

Fort Carson\_3  
Properties at 200 Mhz

## Fort Carson\_3 Soil Properties at 200 MHz

## Seabee Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
SB8_17_S	12.90	1.712	7.41	2.81	0.0312	0.38	18.45	0.36
SB8_17_S	30.65	1.712	18.82	12.01	0.1336	0.64	48.17	0.22
SB8_17_S	41.83	1.712	22.84	13.91	0.1547	0.61	50.82	0.20
SB27.5_73_S	5.4	1.28	4.04	0.90	0.01	0.22	8.06	0.49
SB27.5_73_S	25.77	1.28	12.54	4.84	0.0538	0.39	24.43	0.28
SB27.5_73_S	46.99	1.28	29.96	9.17	0.102	0.31	30.13	0.18
SB65_10.5_S	7.2	1.399	4.63	1.13	0.0126	0.24	9.49	0.46
SB65_10.5_S	32.80	1.399	16.83	7.07	0.0786	0.42	30.71	0.24
SB65_10.5_S	43.83	1.399	24.62	9.70	0.1079	0.39	34.91	0.20
SB122_8_S	9.96	1.756	7.25	2.80	0.0312	0.39	18.61	0.36
SB122_8_S	35.74	1.756	22.94	14.12	0.1571	0.62	51.45	0.20
SB122_8_S	37.92	1.756	20.29	12.38	0.1377	0.61	47.98	0.21
SB123_97_S	7.50	1.336	4.88	1.51	0.0168	0.31	12.30	0.45
SB123_97_S	21.41	1.336	10.70	5.53	0.0615	0.52	29.83	0.30
SB123_97_S	47.63	1.336	31.67	13.07	0.1453	0.41	41.41	0.17
SB8_17_5	12.00	1.805	8.09	3.48	0.0387	0.43	21.76	0.34
SB8_17_5	34.52	1.805	21.52	13.50	0.1502	0.63	50.72	0.21
SB8_17_5	38.17	1.805	19.87	12.31	0.1369	0.62	48.16	0.22
SB27.5_73_5	9	1.498	5.42	1.85	0.0206	0.34	14.29	0.42
SB27.5_73_5	27.24	1.498	13.69	7.50	0.0834	0.55	35.64	0.26
SB27.5_73_5	44.09	1.498	26.90	11.87	0.132	0.44	40.70	0.19
SB65_10.5_5	10.49	1.534	6.30	2.33	0.0259	0.37	16.59	0.39
SB65_10.5_5	31.84	1.534	18.02	10.44	0.1161	0.58	43.10	0.23
SB65_10.5_5	45.55	1.534	26.50	13.64	0.1517	0.51	46.78	0.19
SB122_8_5	11.42	1.687	7.21	2.70	0.03	0.37	18.00	0.37
SB122_8_5	38.96	1.687	22.96	12.92	0.1437	0.56	47.34	0.20
SB122_8_5	41.75	1.687	22.94	13.48	0.1499	0.59	49.26	0.20
SB123_97_5	11.40	1.662	7.09	2.76	0.0306	0.39	18.49	0.37
SB123_97_5	31.12	1.662	18.32	11.76	0.1308	0.64	47.77	0.22
SB123_97_5	38.23	1.662	24.26	14.85	0.1651	0.61	52.62	0.19
SB8_17_1	10.56	1.823	7.70	3.13	0.0348	0.41	20.13	0.35
SB8_17_1	32.01	1.823	21.07	13.51	0.1503	0.64	51.20	0.21
SB8_17_1	36.56	1.823	20.63	12.94	0.1439	0.63	49.63	0.21
SB27.5_73_1	7.58	1.587	5.71	1.99	0.0221	0.35	14.91	0.41
SB27.5_73_1	26.31	1.587	15.38	8.47	0.0942	0.55	37.96	0.25
SB27.5_73_1	31.81	1.587	17.99	9.39	0.1044	0.52	39.03	0.23
SB65_10.5_1	8.92	1.685	6.17	2.26	0.0251	0.37	16.27	0.40
SB65_10.5_1	30.6	1.685	18.28	9.93	0.1104	0.54	40.86	0.23
SB65_10.5_1	37.71	1.685	21.25	10.93	0.1215	0.51	41.84	0.21
SB122_8_1	11.46	1.746	8.12	3.33	0.037	0.41	20.83	0.34
SB122_8_1	37.67	1.746	24.38	16.26	0.1809	0.67	57.10	0.19
SB122_8_1	38.78	1.746	20.21	12.99	0.1444	0.64	50.23	0.21
SB123_97_1	13.10	1.642	7.48	3.18	0.0354	0.43	20.72	0.36
SB123_97_1	28.79	1.642	16.34	13.25	0.1474	0.81	55.76	0.23
SB123_97_1	38.62	1.642	14.84	10.59	0.1178	0.71	47.39	0.25

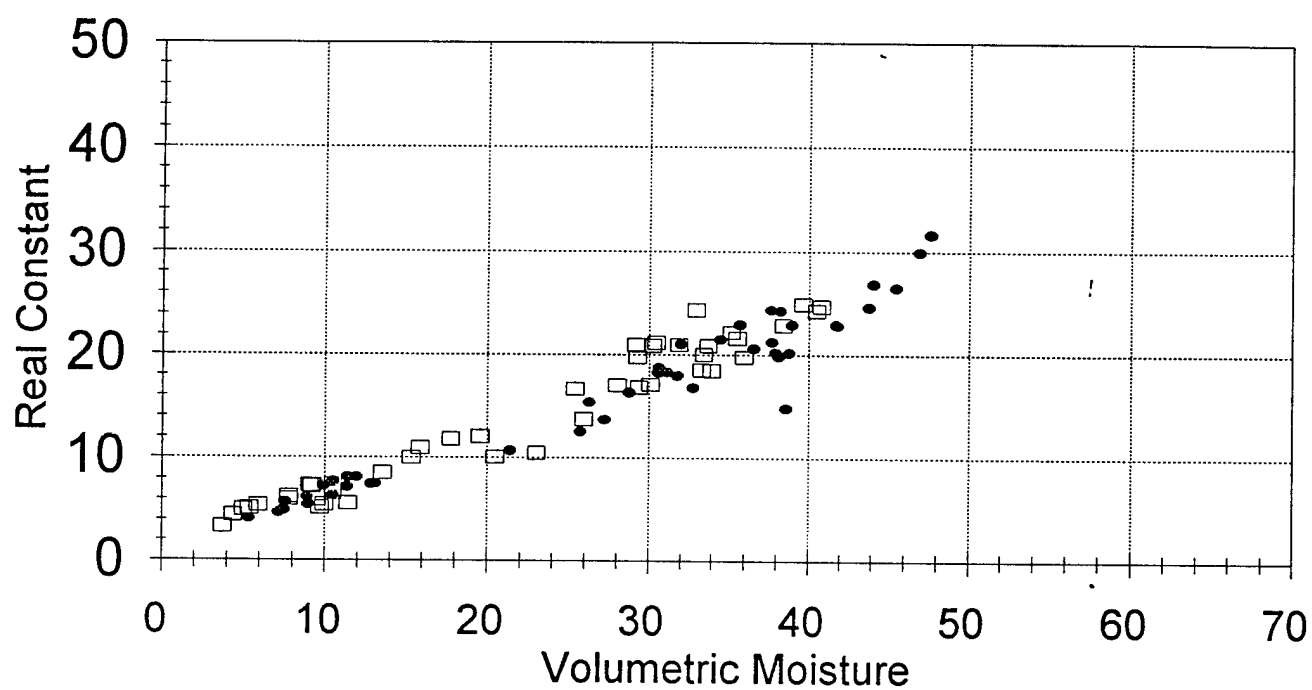
## Fort Carson\_3 Soil Properties at 200 MHz

## Turkey Creek Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
TC8_17_S	5.92	1.805	5.44	1.35	0.015	0.25	10.44	0.43
TC8_17_S	15.89	1.805	11.00	5.32	0.0591	0.48	28.38	0.29
TC8_17_S	29.29	1.805	19.82	8.38	0.0932	0.42	33.52	0.22
TC27.5_73_S	5.36	1.796	5.12	1.05	0.0117	0.21	8.41	0.44
TC27.5_73_S	17.77	1.796	11.84	6.64	0.0738	0.56	33.87	0.28
TC27.5_73_S	31.89	1.796	21.02	11.80	0.1312	0.56	45.17	0.21
TC65_10.5_S	4.38	1.772	4.44	0.62	0.0069	0.14	5.34	0.47
TC65_10.5_S	13.55	1.772	8.56	3.19	0.0355	0.37	19.50	0.34
TC65_10.5_S	33.76	1.772	20.89	7.04	0.0783	0.34	27.65	0.22
TC122_8_S	5.02	1.749	5.02	0.96	0.0107	0.19	7.74	0.44
TC122_8_S	15.35	1.749	10.07	4.09	0.0455	0.41	22.98	0.31
TC122_8_S	35.55	1.749	21.62	7.76	0.0863	0.36	29.90	0.21
TC123_97_S	7.81	1.931	6.02	1.73	0.0192	0.29	12.69	0.40
TC123_97_S	25.39	1.931	16.71	8.15	0.0906	0.49	35.28	0.24
TC123_97_S	28	1.931	17.09	8.51	0.0946	0.50	36.39	0.24
TC8_17_5	9.06	1.814	7.39	2.88	0.032	0.39	18.93	0.36
TC8_17_5	30.24	1.814	20.91	11.98	0.1332	0.57	45.95	0.21
TC8_17_5	36	1.814	19.83	11.53	0.1282	0.58	45.36	0.22
TC27.5_73_5	9.51	1.424	5.94	2.19	0.0244	0.37	16.08	0.40
TC27.5_73_5	25.93	1.424	13.79	7.69	0.0856	0.56	36.39	0.26
TC27.5_73_5	39.64	1.424	24.96	11.67	0.1298	0.47	41.42	0.20
TC65_10.5_5	10.53	1.621	6.58	2.83	0.0315	0.43	19.65	0.38
TC65_10.5_5	29.38	1.621	16.86	9.77	0.1086	0.58	41.68	0.23
TC65_10.5_5	35.16	1.621	22.21	11.13	0.1237	0.50	41.73	0.21
TC122_8_5	32.98	1.839	24.37	16.09	0.179	0.66	56.57	0.19
TC122_8_5	38.43	1.839	22.92	14.63	0.1627	0.64	53.18	0.20
TC122_8_5	10.51	1.839	7.41	2.63	0.0293	0.36	17.33	0.36
TC123_97_5	9.24	1.932	7.35	2.57	0.0286	0.35	17.01	0.36
TC123_97_5	30.47	1.932	21.21	12.58	0.1399	0.59	47.80	0.21
TC123_97_5	33.45	1.932	20.08	12.22	0.1359	0.61	47.62	0.21
TC8_17_1	7.83	1.741	6.27	2.38	0.0265	0.38	17.03	0.39
TC8_17_1	19.54	1.741	12.08	7.62	0.0848	0.63	38.19	0.28
TC8_17_1	30.1	1.741	17.12	10.21	0.1135	0.60	43.14	0.23
TC27.5_73_1	9.70	1.394	5.15	2.05	0.0228	0.40	16.11	0.43
TC27.5_73_1	23.03	1.394	10.52	6.43	0.0715	0.61	34.59	0.30
TC27.5_73_1	40.82	1.394	24.74	13.18	0.1466	0.53	46.68	0.19
TC65_10.5_1	9.96	1.344	5.49	2.18	0.0243	0.40	16.62	0.42
TC65_10.5_1	20.45	1.344	10.10	6.25	0.0695	0.62	34.29	0.30
TC65_10.5_1	40.47	1.344	24.31	12.44	0.1383	0.51	44.54	0.20
TC122_8_1	9.15	1.854	7.25	2.85	0.0317	0.39	18.90	0.36
TC122_8_1	29.19	1.854	20.94	14.44	0.1606	0.69	54.54	0.21
TC122_8_1	33.32	1.854	18.57	11.49	0.1278	0.62	46.51	0.22
TC123_97_1	3.76	1.693	3.34	0.48	0.0053	0.14	4.75	0.55
TC123_97_1	11.46	1.693	5.61	1.22	0.0136	0.22	9.32	0.42
TC123_97_1	33.98	1.693	18.52	3.45	0.0384	0.19	14.53	0.23

# Fort Carson\_3

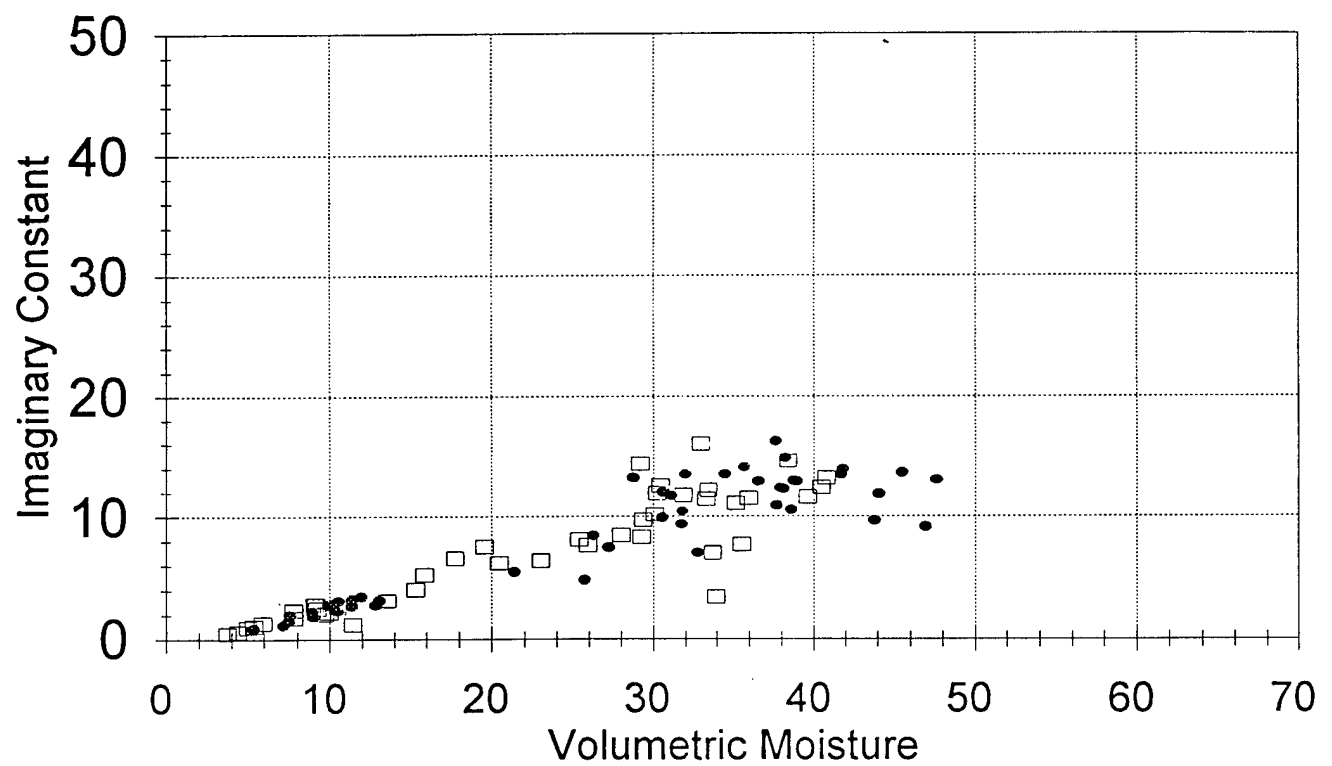
## Properties at 200 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

# Fort Carson\_3

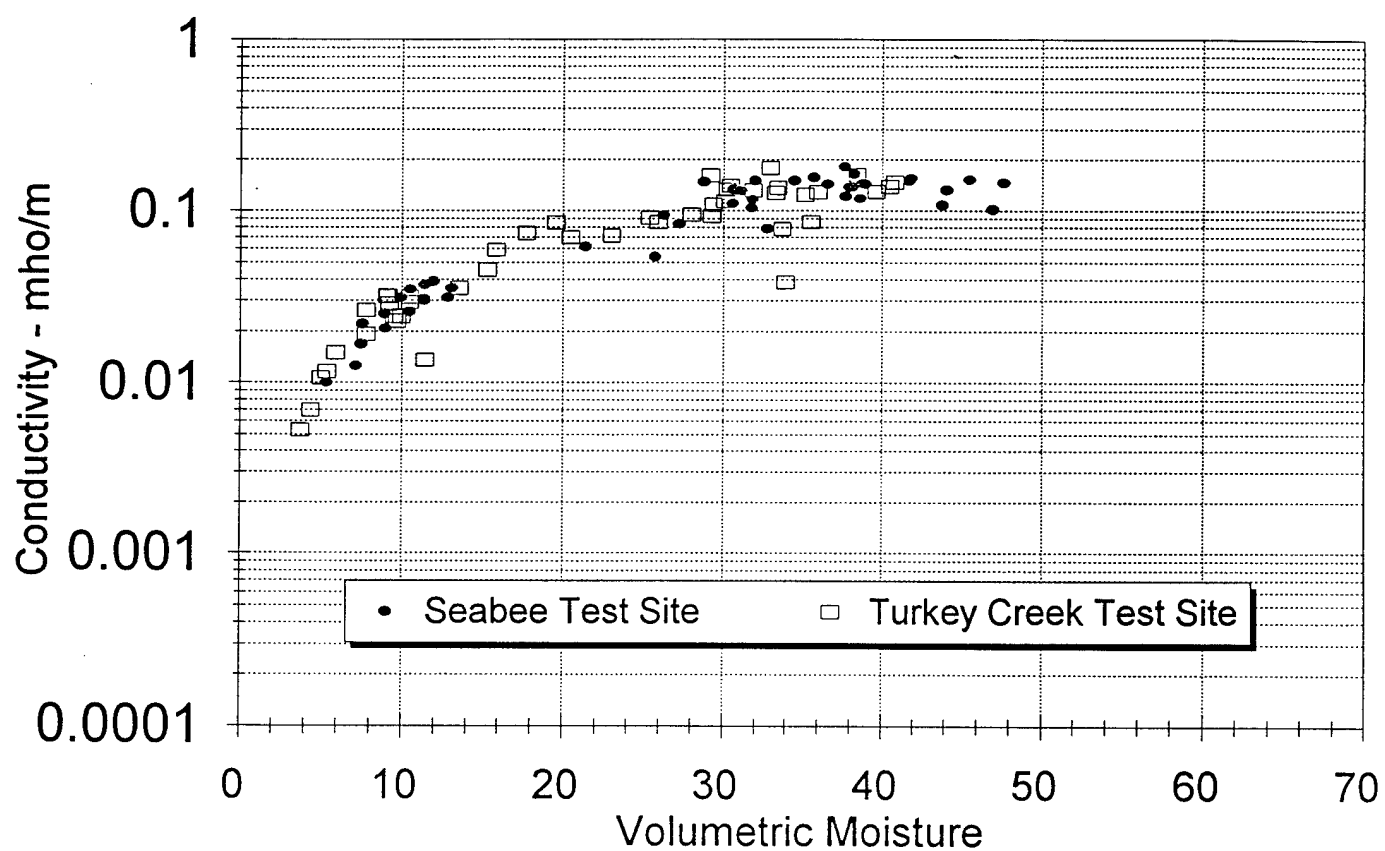
## Properties at 200 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

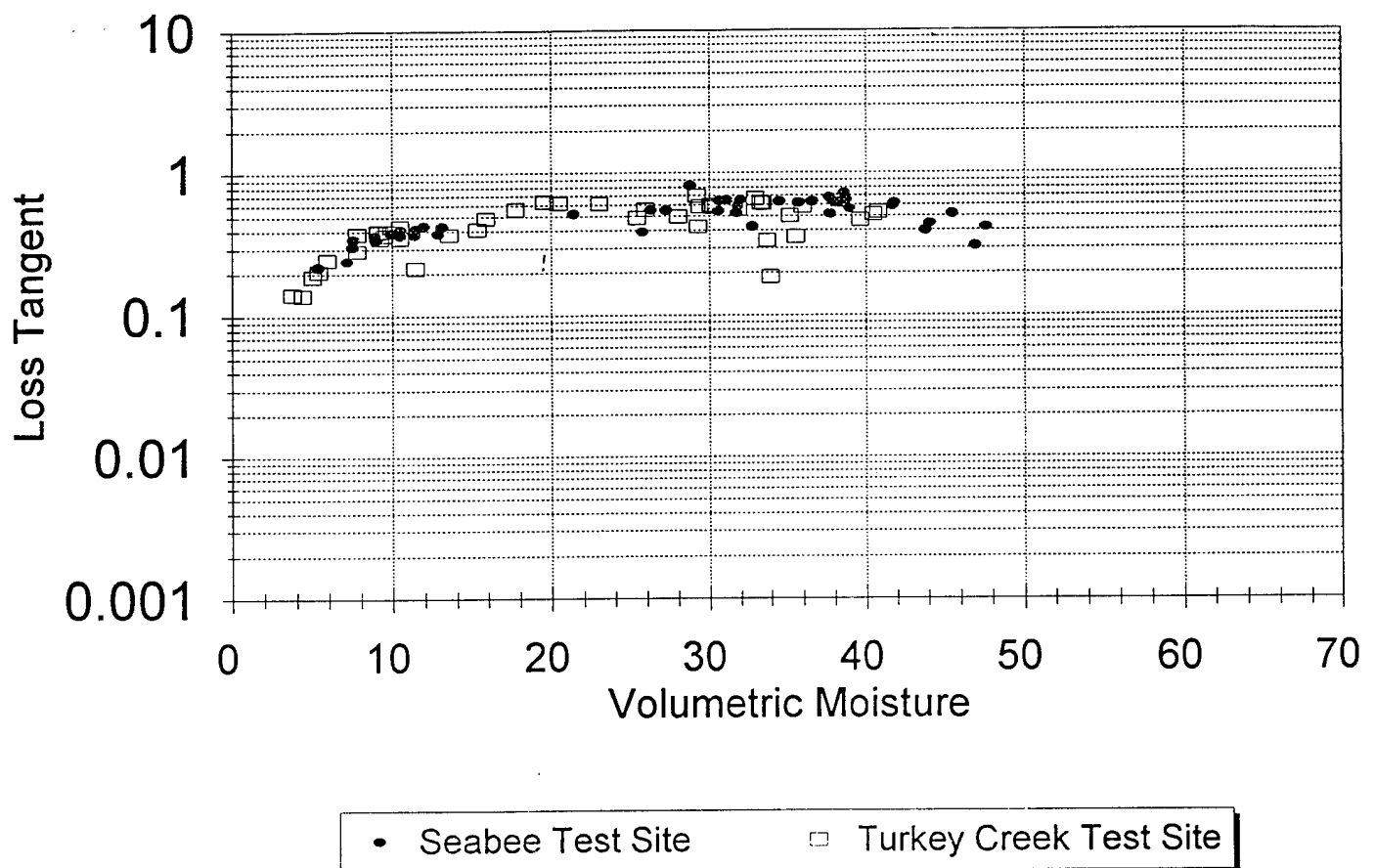
# Fort Carson\_3

## Properties at 200 MHz , All Depths



# Fort Carson\_3

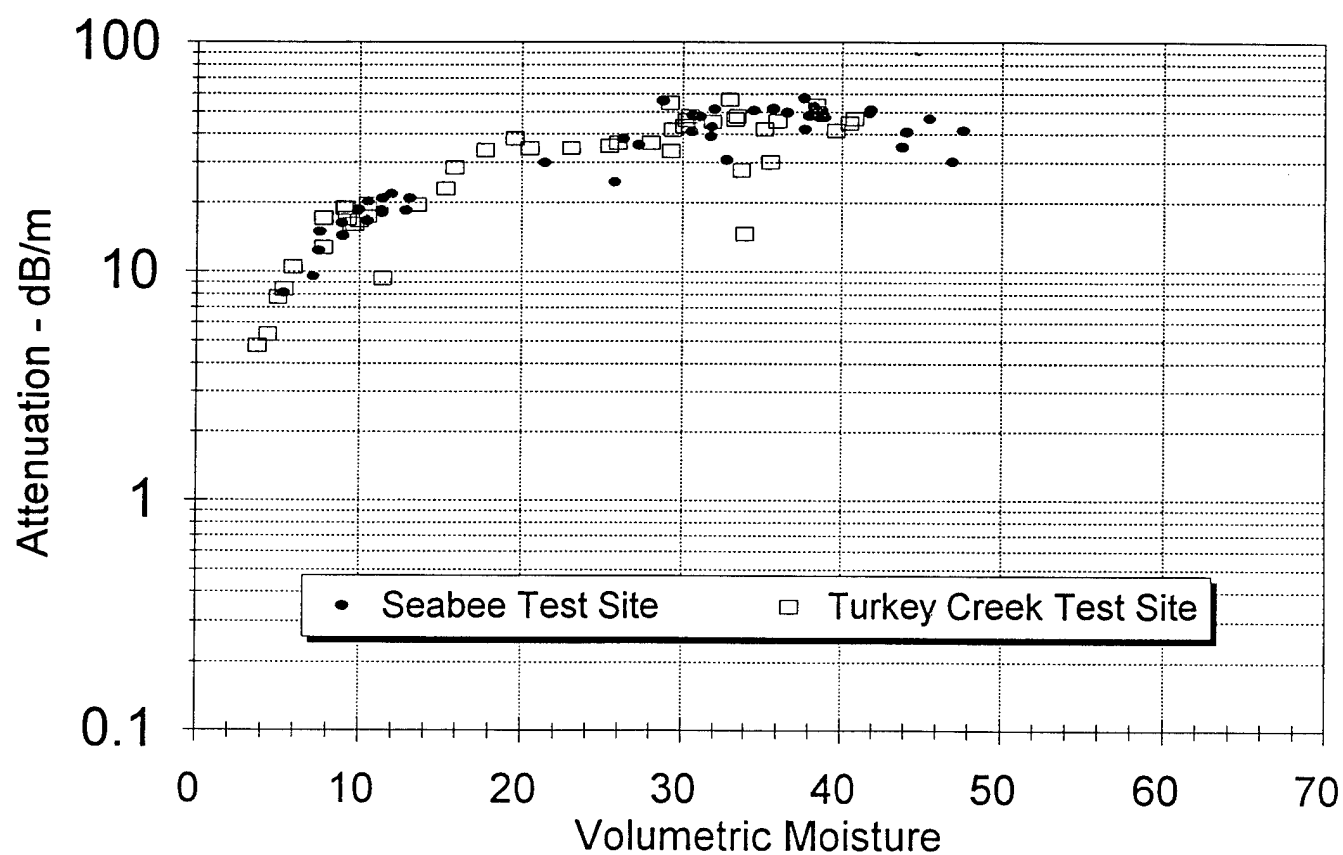
## Properties at 200 MHz , All Depths





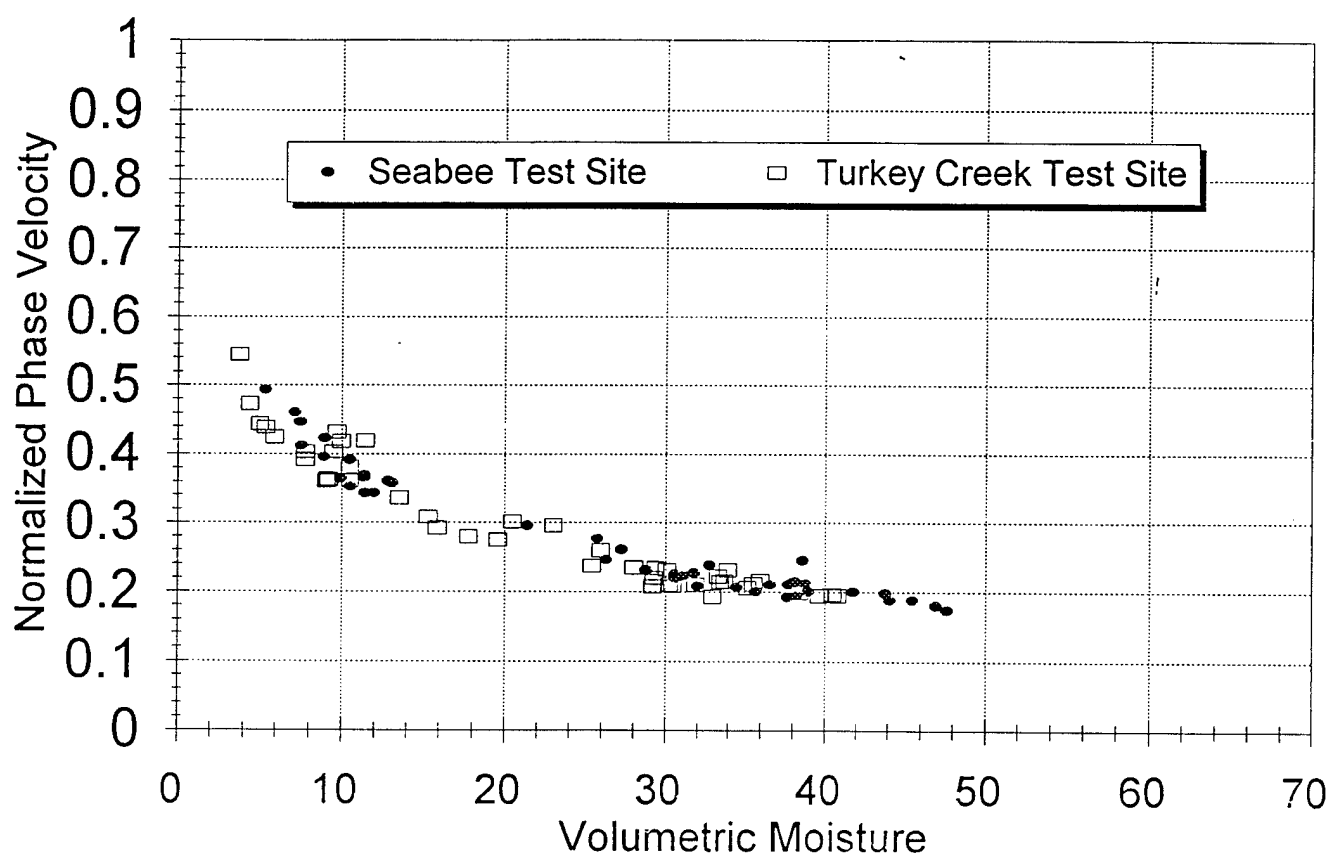
# Fort Carson\_3

## Properties at 200 MHz , All Depths

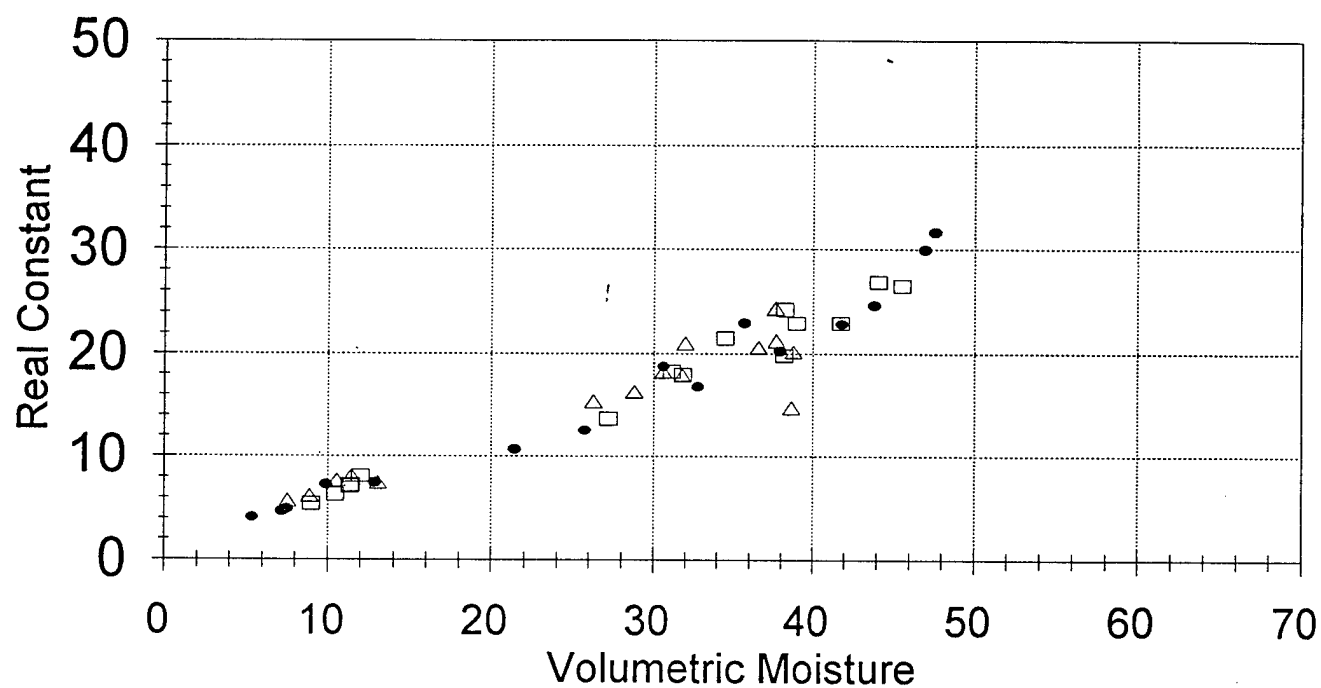


## Fort Carson\_3

Properties at 200 MHz , All Depths

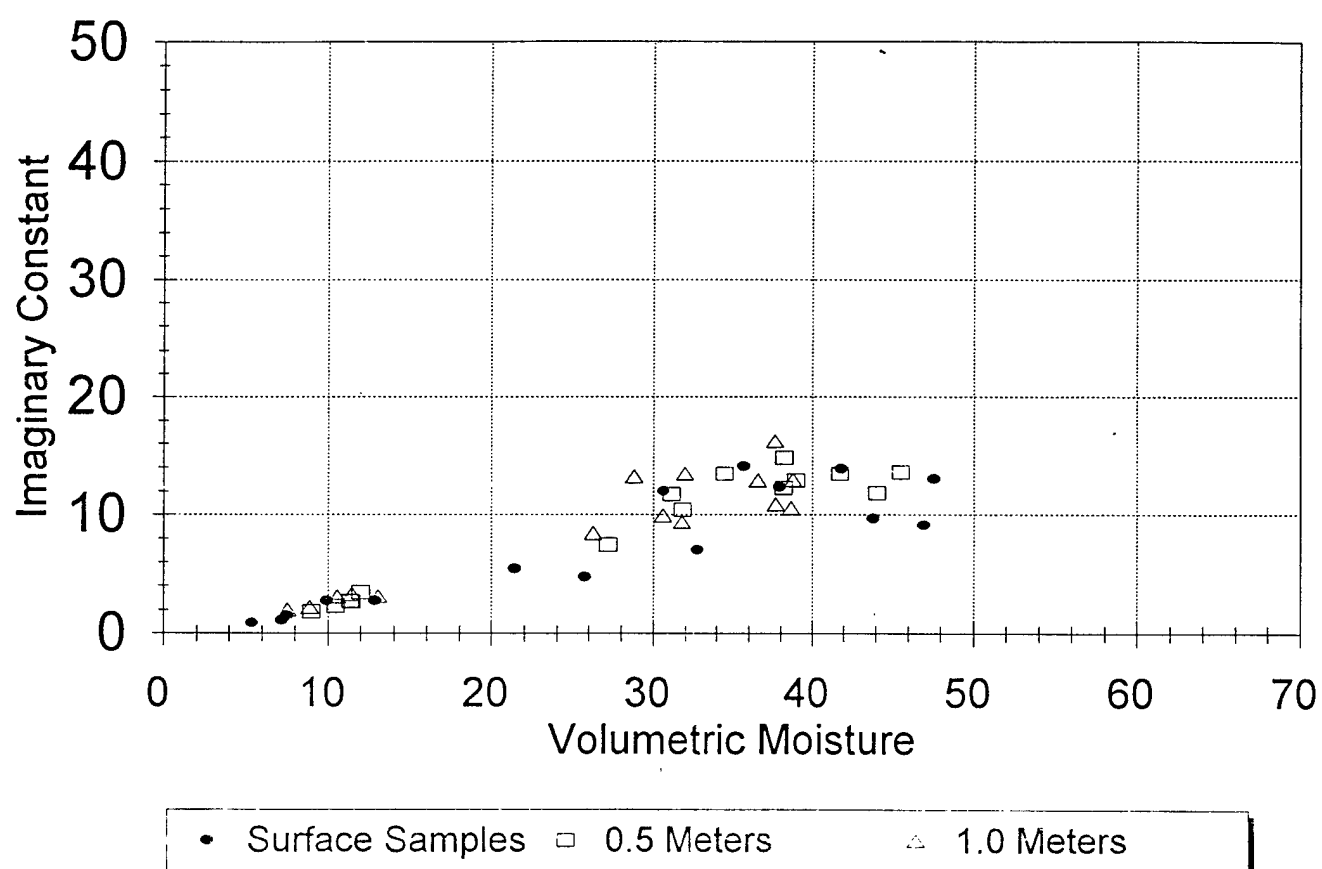


## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth

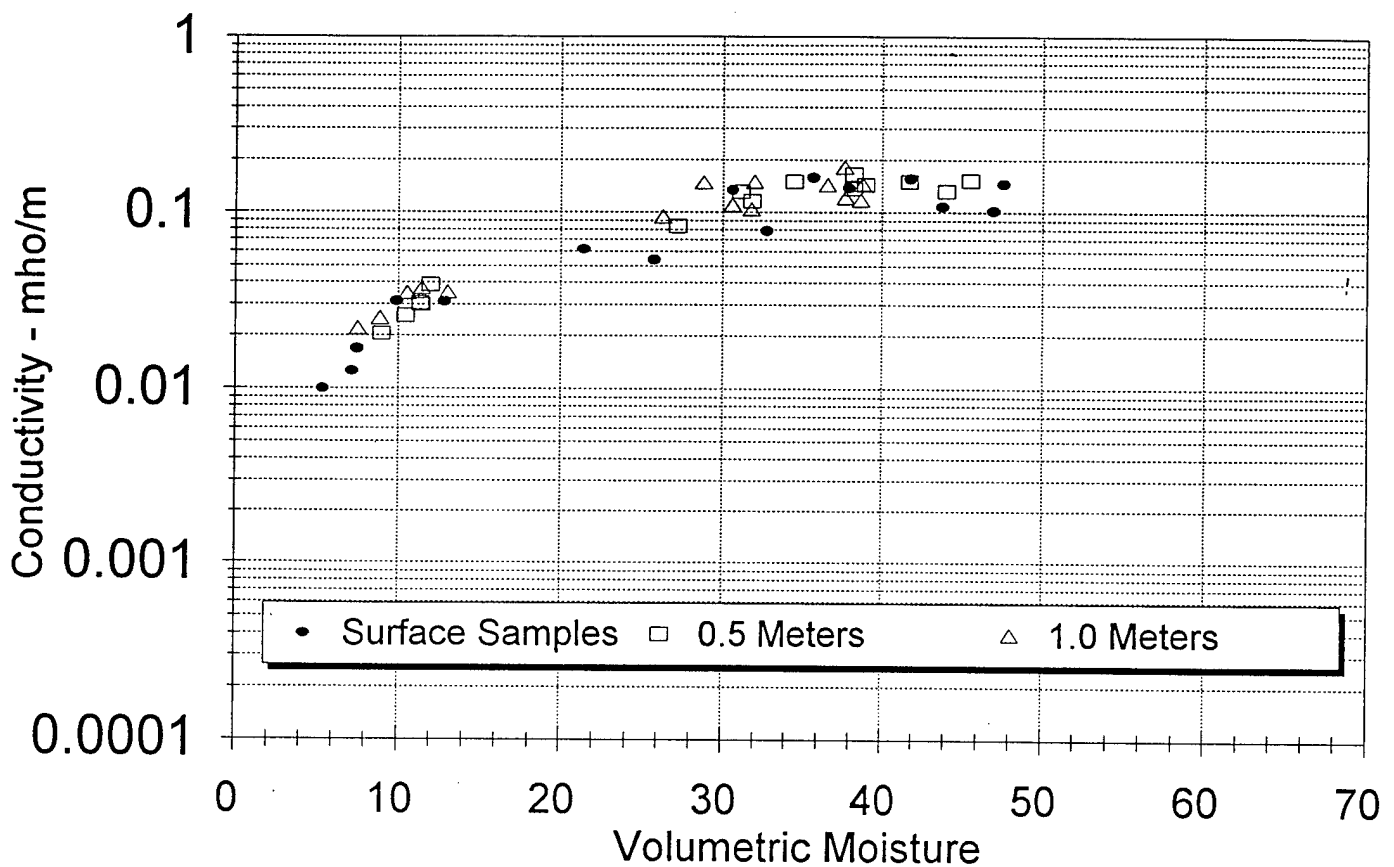


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

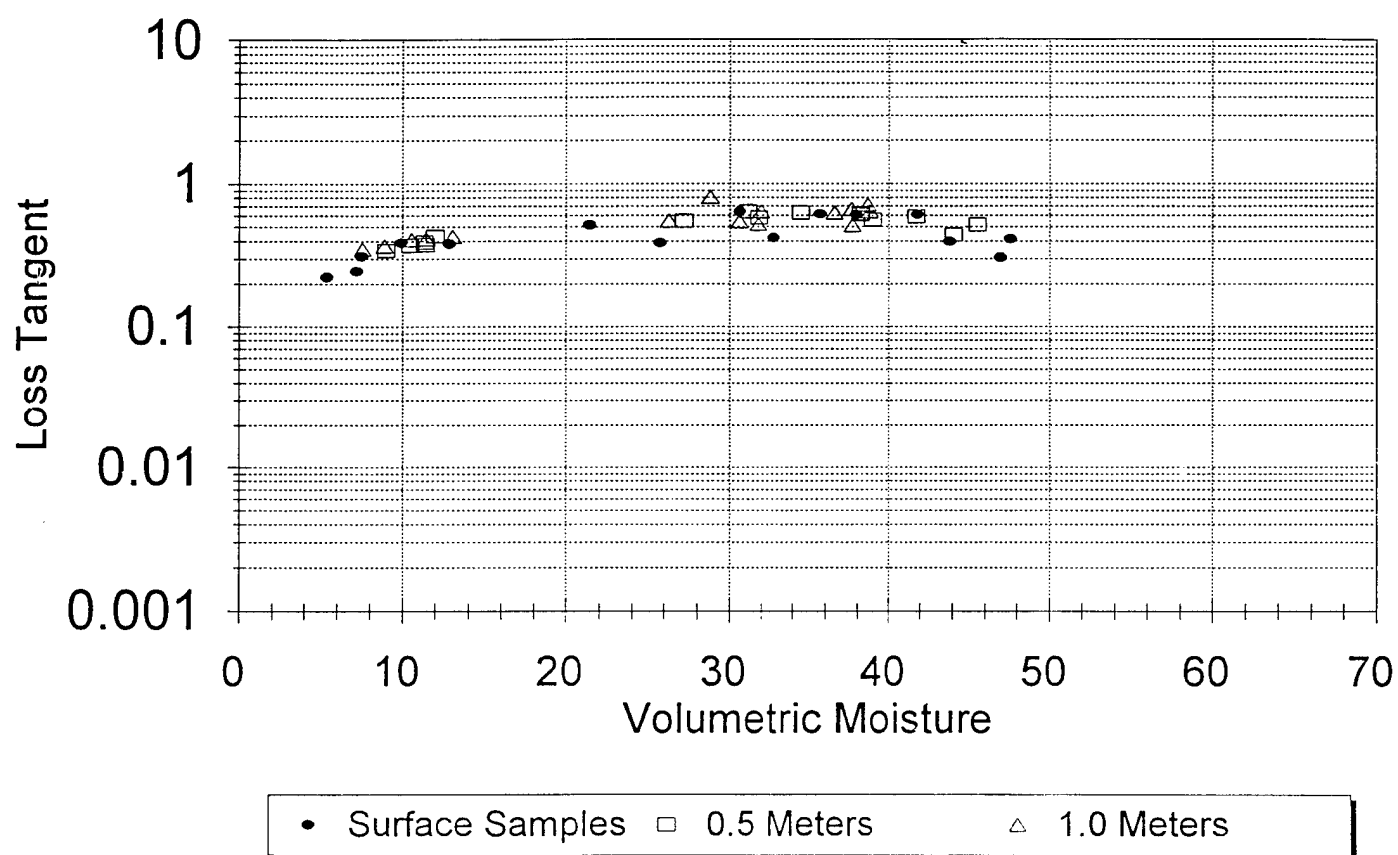
## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth



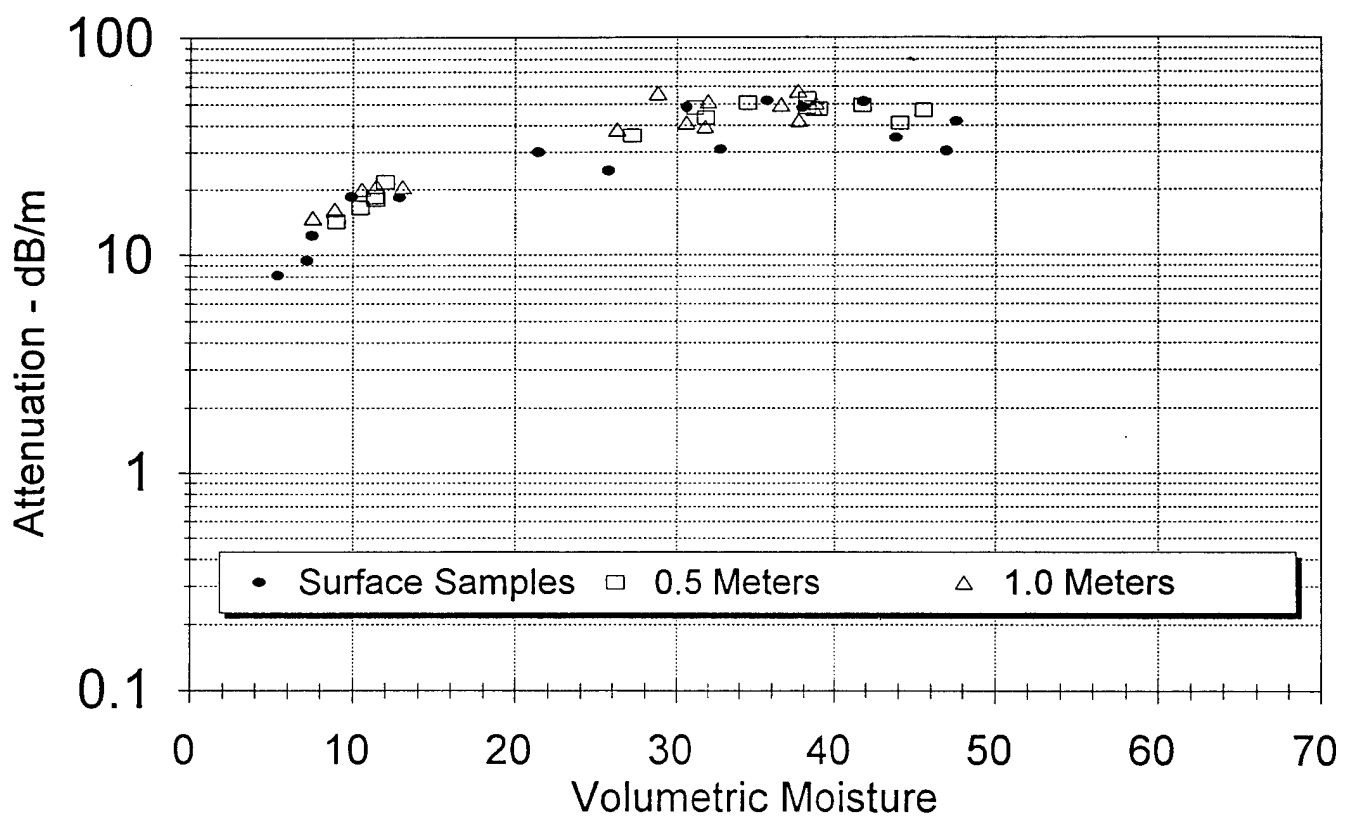
## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth



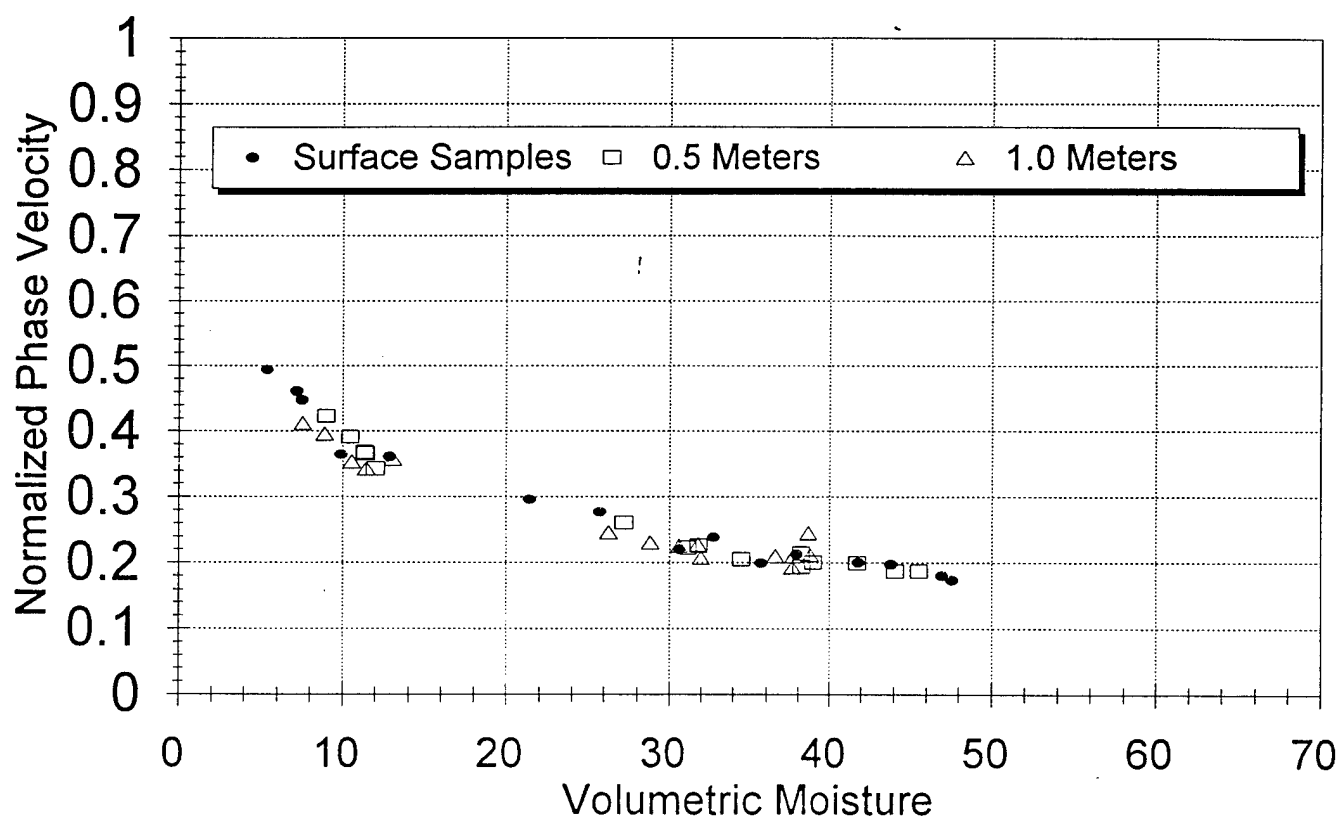
## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth



## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth

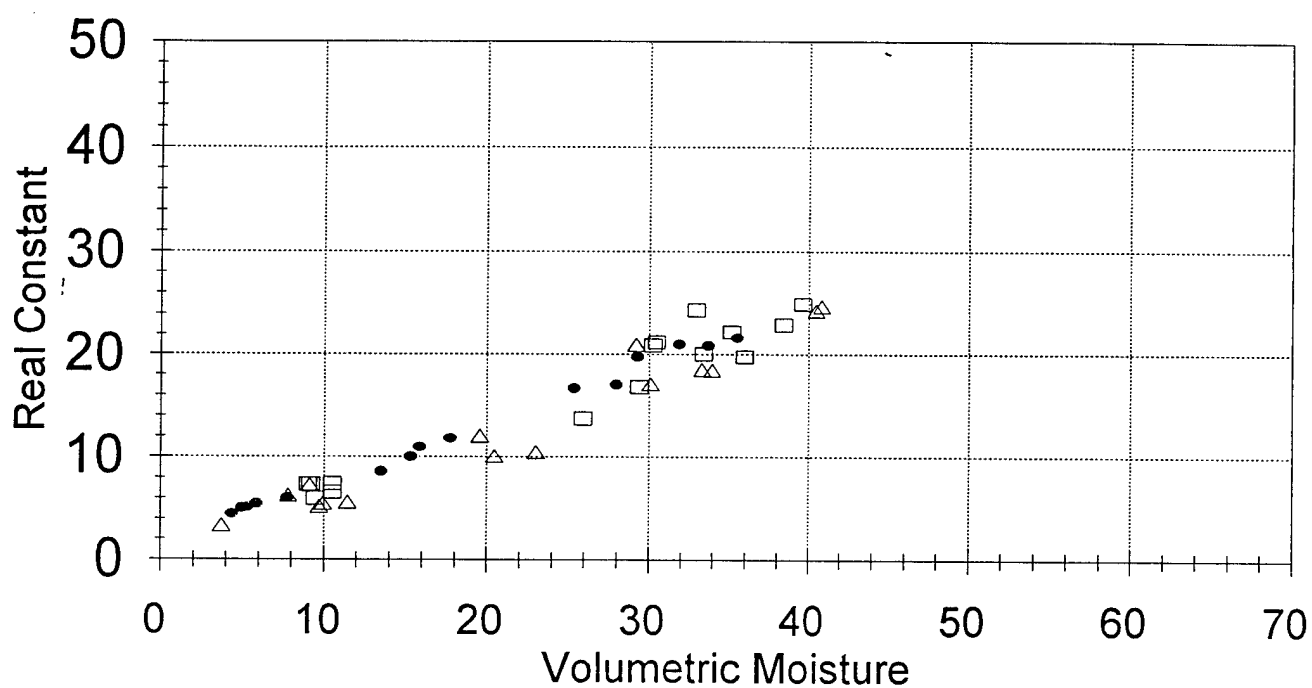


## Fort Carson\_3 , Seabee Test Site Properties at 200 MHz by Depth



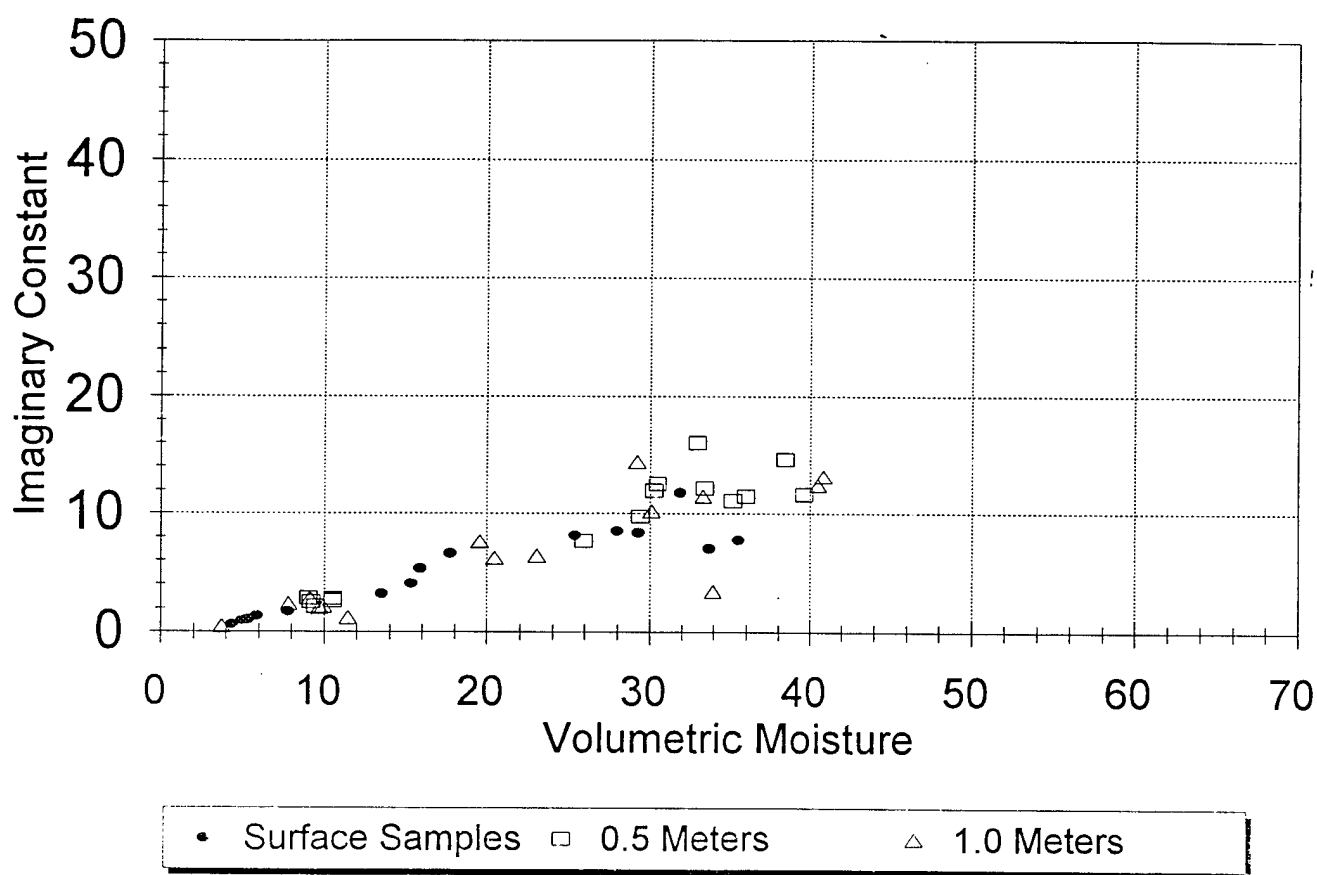


## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth

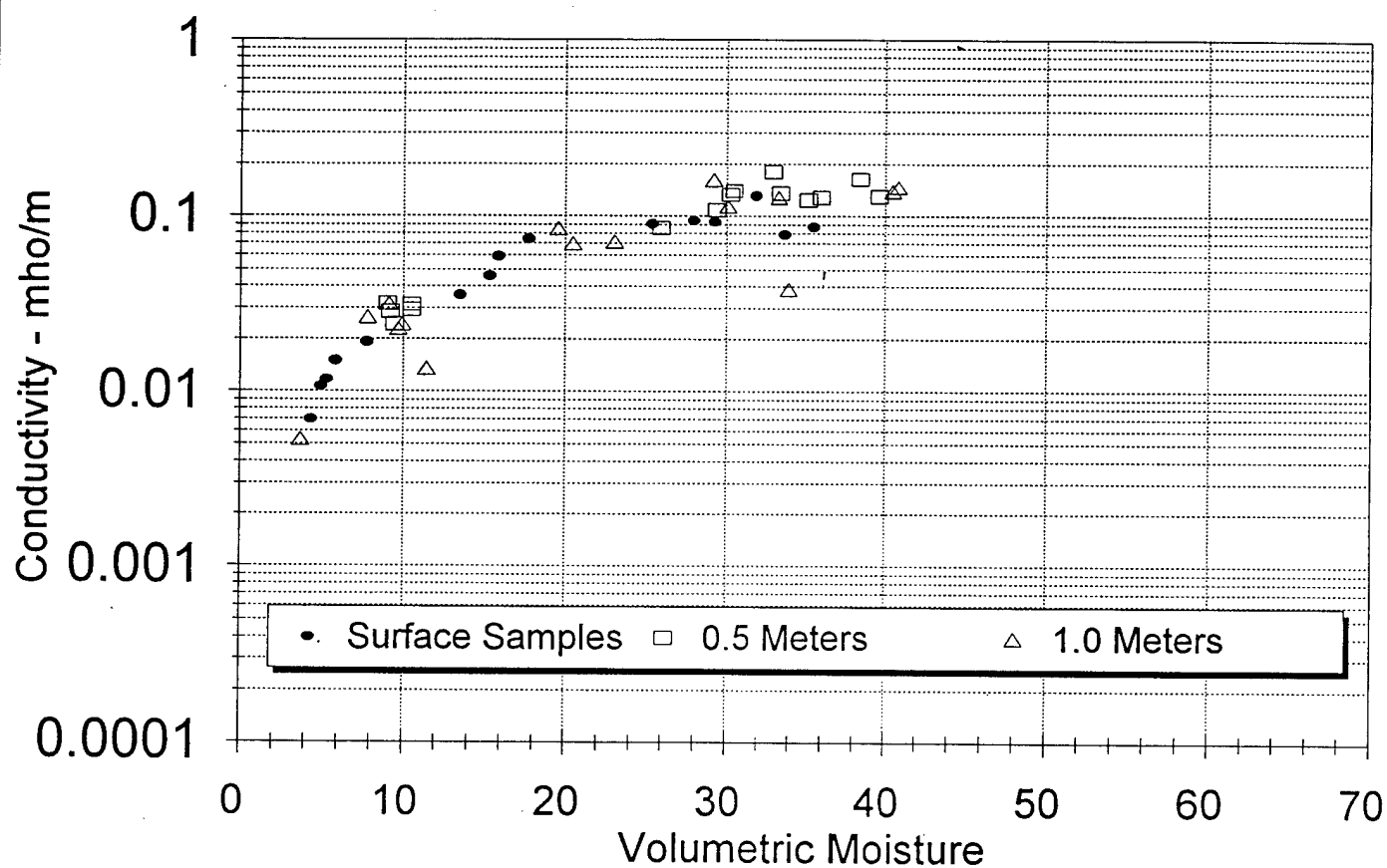


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

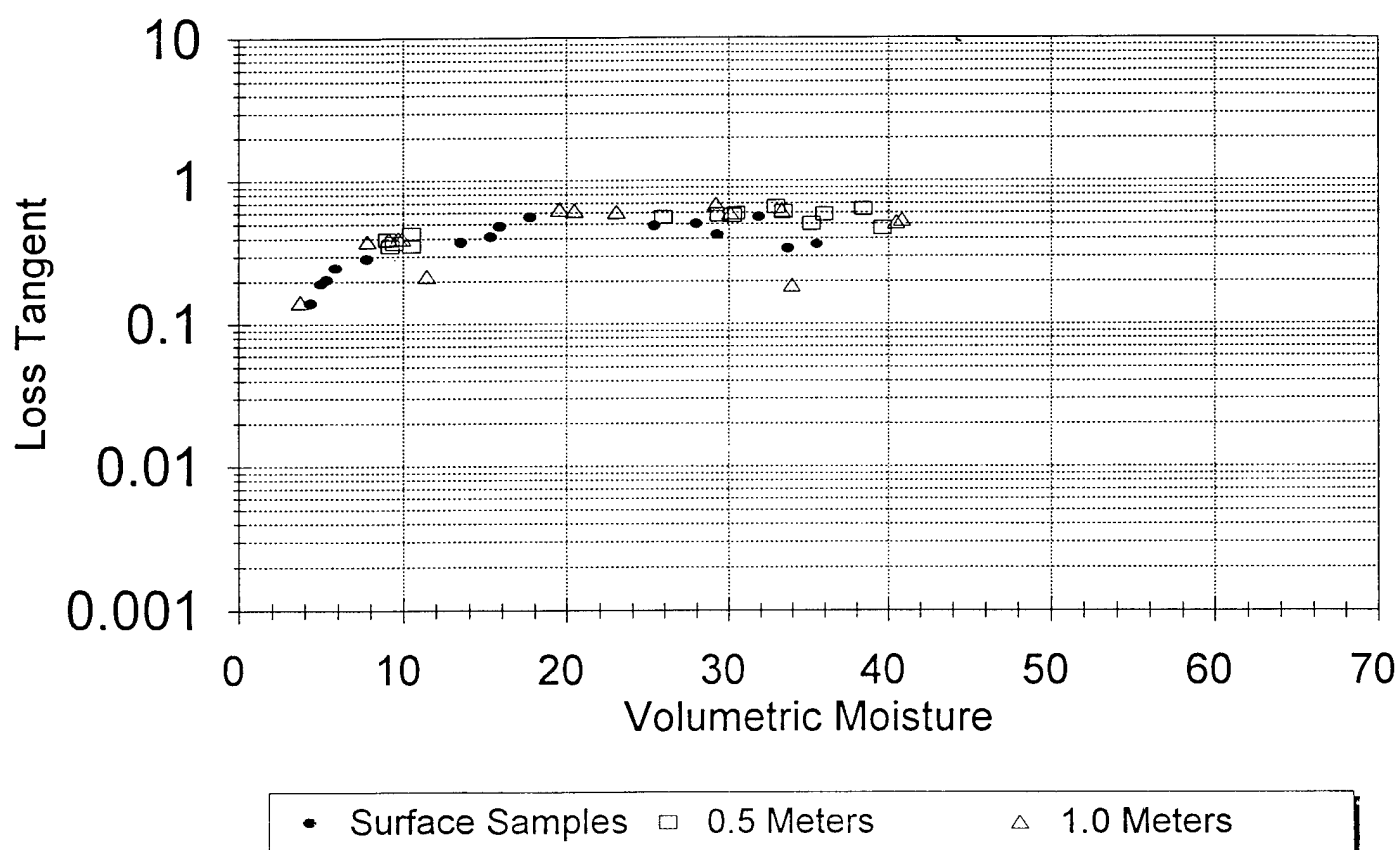
## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth



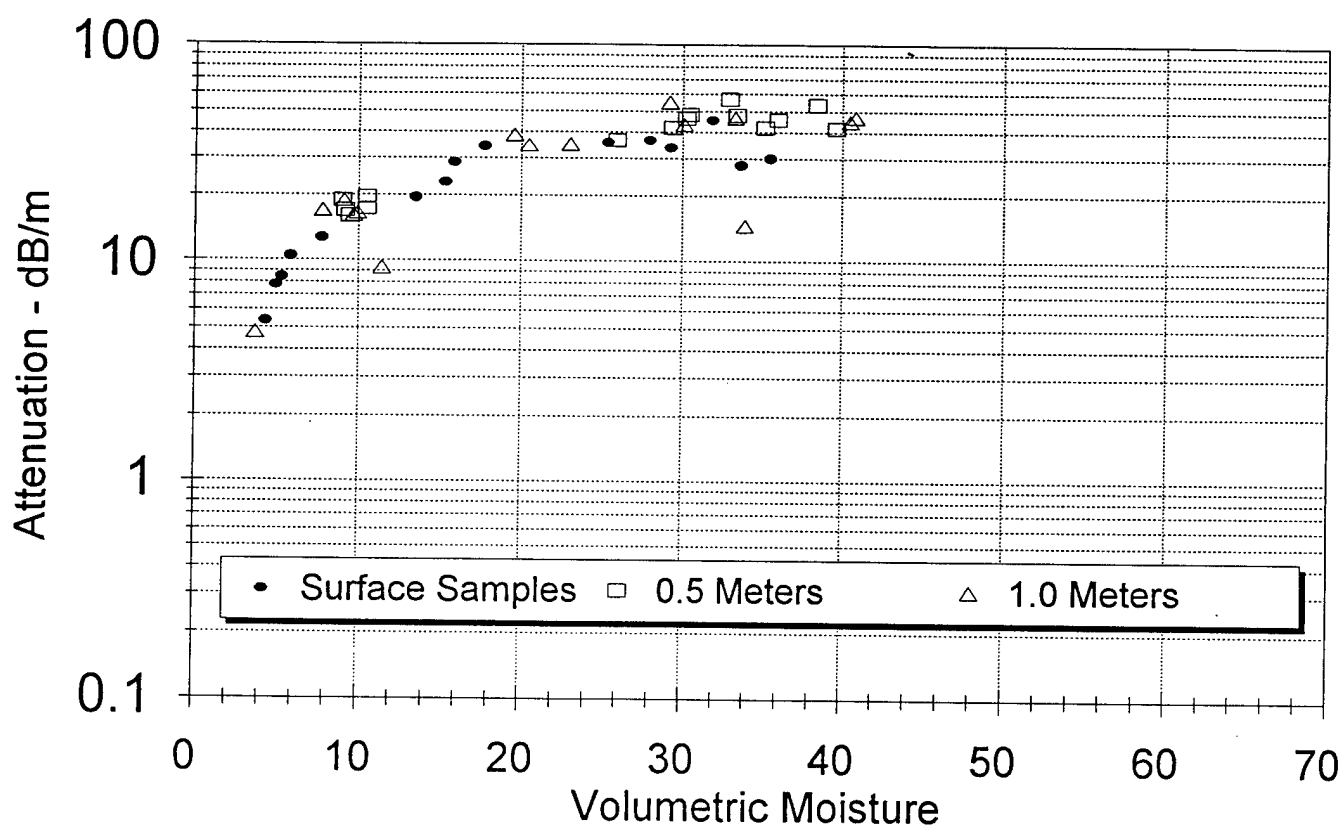
## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth



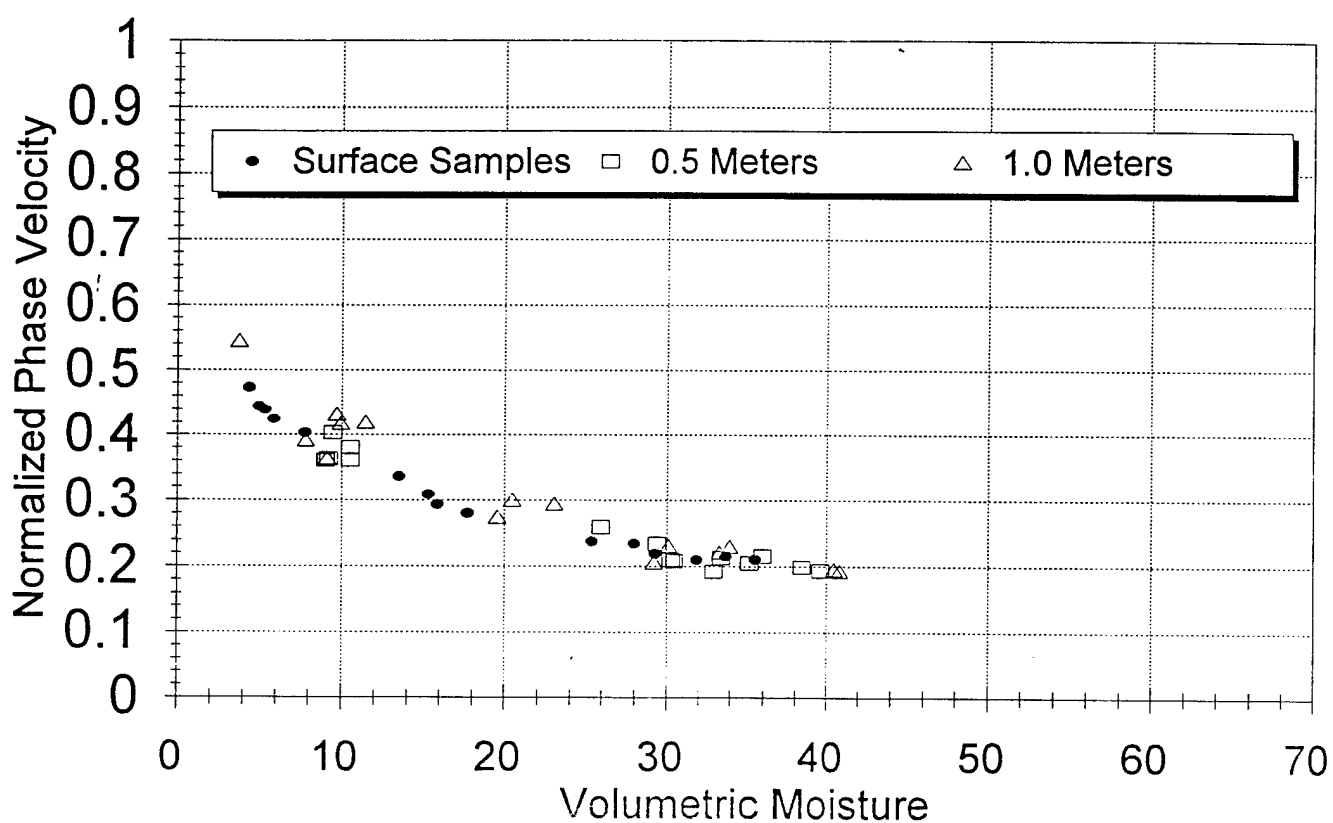
## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 200 MHz by Depth



Fort Carson\_3  
Properties at 895 Mhz

## Fort Carson\_3 Soil Properties at 895 MHz

## Seabee Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
SB8_17_S	12.90	1.712	6.17	1.23	0.0613	0.20	40.15	0.40
SB8_17_S	30.65	1.712	15.10	4.42	0.22	0.29	91.64	0.25
SB8_17_S	41.83	1.712	18.67	5.11	0.2542	0.27	95.35	0.23
SB27.5_73_S	5.4	1.28	3.58	0.43	0.0216	0.12	18.63	0.53
SB27.5_73_S	25.77	1.28	11.06	1.92	0.0958	0.17	46.93	0.30
SB27.5_73_S	46.99	1.28	27.12	4.00	0.1992	0.15	62.41	0.19
SB65_10.5_S	7.2	1.399	4.13	0.58	0.0291	0.14	23.34	0.49
SB65_10.5_S	32.80	1.399	15.26	2.77	0.1379	0.18	57.52	0.26
SB65_10.5_S	43.83	1.399	22.34	3.94	0.1959	0.18	67.54	0.21
SB122_8_S	9.96	1.756	5.94	1.19	0.0595	0.20	39.73	0.41
SB122_8_S	35.74	1.756	18.91	5.05	0.2515	0.27	93.79	0.23
SB122_8_S	37.92	1.756	16.35	4.68	0.2331	0.29	93.35	0.24
SB123_97_S	7.50	1.336	4.15	0.68	0.0336	0.16	26.93	0.49
SB123_97_S	21.41	1.336	8.85	2.08	0.1036	0.24	56.62	0.33
SB123_97_S	47.63	1.336	27.38	5.37	0.2675	0.20	83.22	0.19
SB8_17_5	34.52	1.805	17.64	4.81	0.2392	0.27	92.31	0.24
SB8_17_5	38.17	1.805	15.88	4.49	0.2236	0.28	90.90	0.25
SB8_17_5	12.00	1.805	6.68	1.40	0.0698	0.21	43.94	0.38
SB27.5_73_5	9	1.498	4.59	0.76	0.0379	0.17	28.84	0.47
SB27.5_73_5	27.24	1.498	11.61	2.75	0.137	0.24	65.34	0.29
SB27.5_73_5	44.09	1.498	23.14	4.75	0.2364	0.21	79.96	0.21
SB65_10.5_5	10.49	1.534	5.26	1.00	0.0497	0.19	35.30	0.43
SB65_10.5_5	31.84	1.534	14.94	3.86	0.192	0.26	80.60	0.26
SB65_10.5_5	45.55	1.534	22.19	5.30	0.2637	0.24	90.92	0.21
SB122_8_5	11.42	1.687	5.96	1.16	0.0576	0.19	38.44	0.41
SB122_8_5	38.96	1.687	19.26	4.69	0.2333	0.24	86.32	0.23
SB122_8_5	41.75	1.687	19.07	4.97	0.2475	0.26	91.91	0.23
SB123_97_5	11.40	1.662	5.86	1.17	0.0583	0.20	39.18	0.41
SB123_97_5	31.12	1.662	14.86	4.23	0.2105	0.28	88.43	0.26
SB123_97_5	38.23	1.662	19.72	5.32	0.265	0.27	96.75	0.22
SB8_17_1	10.56	1.823	6.46	1.28	0.0636	0.20	40.73	0.39
SB8_17_1	32.01	1.823	17.57	4.73	0.2355	0.27	91.09	0.24
SB8_17_1	36.56	1.823	17.01	4.56	0.227	0.27	89.24	0.24
SB27.5_73_1	7.58	1.587	4.86	0.81	0.0404	0.17	29.90	0.45
SB27.5_73_1	26.31	1.587	12.91	3.00	0.1494	0.23	67.57	0.28
SB27.5_73_1	31.81	1.587	15.30	3.46	0.1724	0.23	71.64	0.25
SB65_10.5_1	8.92	1.685	5.26	0.92	0.0456	0.17	32.37	0.43
SB65_10.5_1	30.6	1.685	15.33	3.73	0.1859	0.24	77.08	0.25
SB65_10.5_1	37.71	1.685	17.86	4.08	0.2033	0.23	78.18	0.24
SB122_8_1	11.46	1.746	6.64	1.38	0.0685	0.21	43.27	0.39
SB122_8_1	37.67	1.746	19.97	5.66	0.2815	0.28	102.02	0.22
SB122_8_1	38.78	1.746	16.55	4.80	0.2391	0.29	95.15	0.24
SB123_97_1	13.10	1.642	6.06	1.35	0.0671	0.22	44.32	0.40
SB123_97_1	28.79	1.642	12.64	4.40	0.2187	0.35	99.19	0.28
SB123_97_1	38.62	1.642	11.51	3.58	0.1782	0.31	84.93	0.29



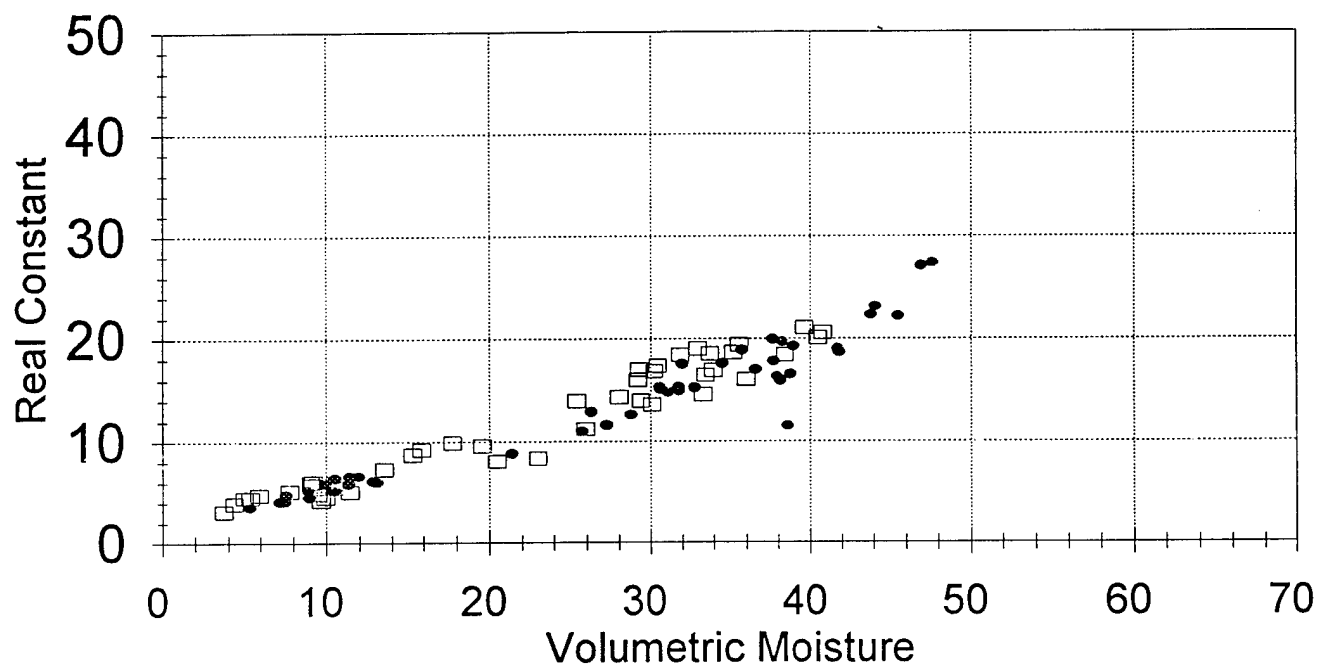
## Fort Carson\_3 Soil Properties at 895 MHz

## Turkey Creek Test Site

Coordinates	Vol Moist	Dry Dens g/cc	Re(eps)	Im(eps)	Cond mho/m	Loss Tan	Attn dB/m	Norm Vel
TC8_17_S	5.92	1.805	4.79	0.62	0.0308	0.13	22.97	0.46
TC8_17_S	15.89	1.805	9.22	2.06	0.1025	0.22	54.85	0.33
TC8_17_S	29.29	1.805	17.01	3.41	0.1695	0.20	66.91	0.24
TC27.5_73_S	5.36	1.796	4.53	0.53	0.0262	0.12	20.08	0.47
TC27.5_73_S	17.77	1.796	9.90	2.44	0.1216	0.25	62.74	0.32
TC27.5_73_S	31.89	1.796	18.42	4.28	0.2131	0.23	80.68	0.23
TC65_10.5_S	4.38	1.772	3.93	0.39	0.0194	0.10	15.97	0.50
TC65_10.5_S	13.55	1.772	7.34	1.28	0.0639	0.17	38.41	0.37
TC65_10.5_S	33.76	1.772	18.60	2.92	0.1454	0.16	55.00	0.23
TC122_8_S	5.02	1.749	4.53	0.47	0.0232	0.10	17.79	0.47
TC122_8_S	15.35	1.749	8.74	1.61	0.0802	0.18	44.20	0.34
TC122_8_S	35.55	1.749	19.43	3.24	0.1615	0.17	59.71	0.23
TC123_97_S	7.81	1.931	5.15	0.76	0.0376	0.15	27.04	0.44
TC123_97_S	25.39	1.931	13.98	3.12	0.1551	0.22	67.41	0.27
TC123_97_S	28	1.931	14.36	3.28	0.1634	0.23	70.06	0.26
TC8_17_5	9.06	1.814	6.03	1.29	0.0642	0.21	42.53	0.41
TC8_17_5	30.24	1.814	16.88	4.60	0.229	0.27	90.34	0.24
TC8_17_5	36	1.814	16.07	4.16	0.2071	0.26	83.82	0.25
TC27.5_73_5	9.51	1.424	4.89	0.96	0.0477	0.20	35.14	0.45
TC27.5_73_5	25.93	1.424	11.28	2.89	0.144	0.26	69.57	0.30
TC27.5_73_5	39.64	1.424	21.08	4.73	0.2355	0.22	83.37	0.22
TC65_10.5_5	10.53	1.621	5.51	1.12	0.0559	0.20	38.79	0.42
TC65_10.5_5	29.38	1.621	13.97	3.61	0.1797	0.26	78.00	0.27
TC65_10.5_5	35.16	1.621	18.70	4.40	0.2188	0.24	82.21	0.23
TC122_8_5	32.98	1.839	19.06	5.68	0.2825	0.30	104.73	0.23
TC122_8_5	38.43	1.839	18.43	5.29	0.2631	0.29	99.25	0.23
TC122_8_5	10.51	1.839	6.02	1.19	0.0593	0.20	39.33	0.41
TC123_97_5	9.24	1.932	6.15	1.14	0.0566	0.18	37.16	0.40
TC123_97_5	30.47	1.932	17.40	4.68	0.233	0.27	90.56	0.24
TC123_97_5	33.45	1.932	16.48	4.54	0.2258	0.28	90.16	0.24
TC8_17_1	7.83	1.741	5.15	0.99	0.0493	0.19	35.38	0.44
TC8_17_1	19.54	1.741	9.58	2.68	0.1333	0.28	69.77	0.32
TC8_17_1	30.1	1.741	13.63	3.85	0.1914	0.28	83.99	0.27
TC27.5_73_1	9.70	1.394	4.24	0.86	0.043	0.20	33.98	0.48
TC27.5_73_1	23.03	1.394	8.37	2.38	0.1185	0.28	66.35	0.34
TC27.5_73_1	40.82	1.394	20.59	5.05	0.2515	0.25	89.99	0.22
TC65_10.5_1	9.96	1.344	4.54	0.94	0.0469	0.21	35.76	0.47
TC65_10.5_1	20.45	1.344	8.08	2.31	0.1148	0.29	65.42	0.35
TC65_10.5_1	40.47	1.344	20.15	4.84	0.2408	0.24	87.15	0.22
TC122_8_1	9.15	1.854	5.81	1.23	0.061	0.21	41.19	0.41
TC122_8_1	29.19	1.854	15.99	5.01	0.2493	0.31	100.76	0.25
TC122_8_1	33.32	1.854	14.64	4.32	0.2148	0.29	90.87	0.26
TC123_97_1	3.76	1.693	3.13	0.21	0.0104	0.07	9.57	0.56
TC123_97_1	11.46	1.693	5.13	0.49	0.0245	0.10	17.65	0.44
TC123_97_1	33.98	1.693	16.99	1.90	0.0948	0.11	37.55	0.24

# Fort Carson\_3

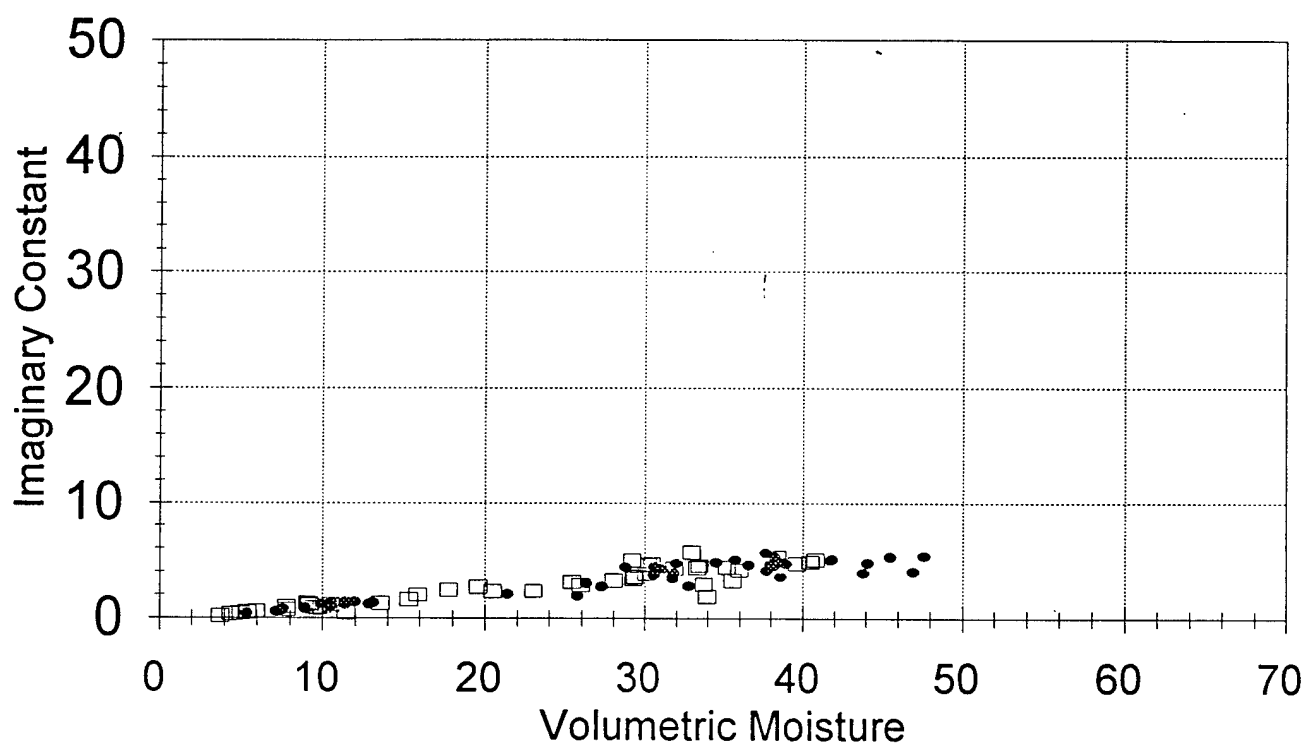
## Properties at 895 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

# Fort Carson\_3

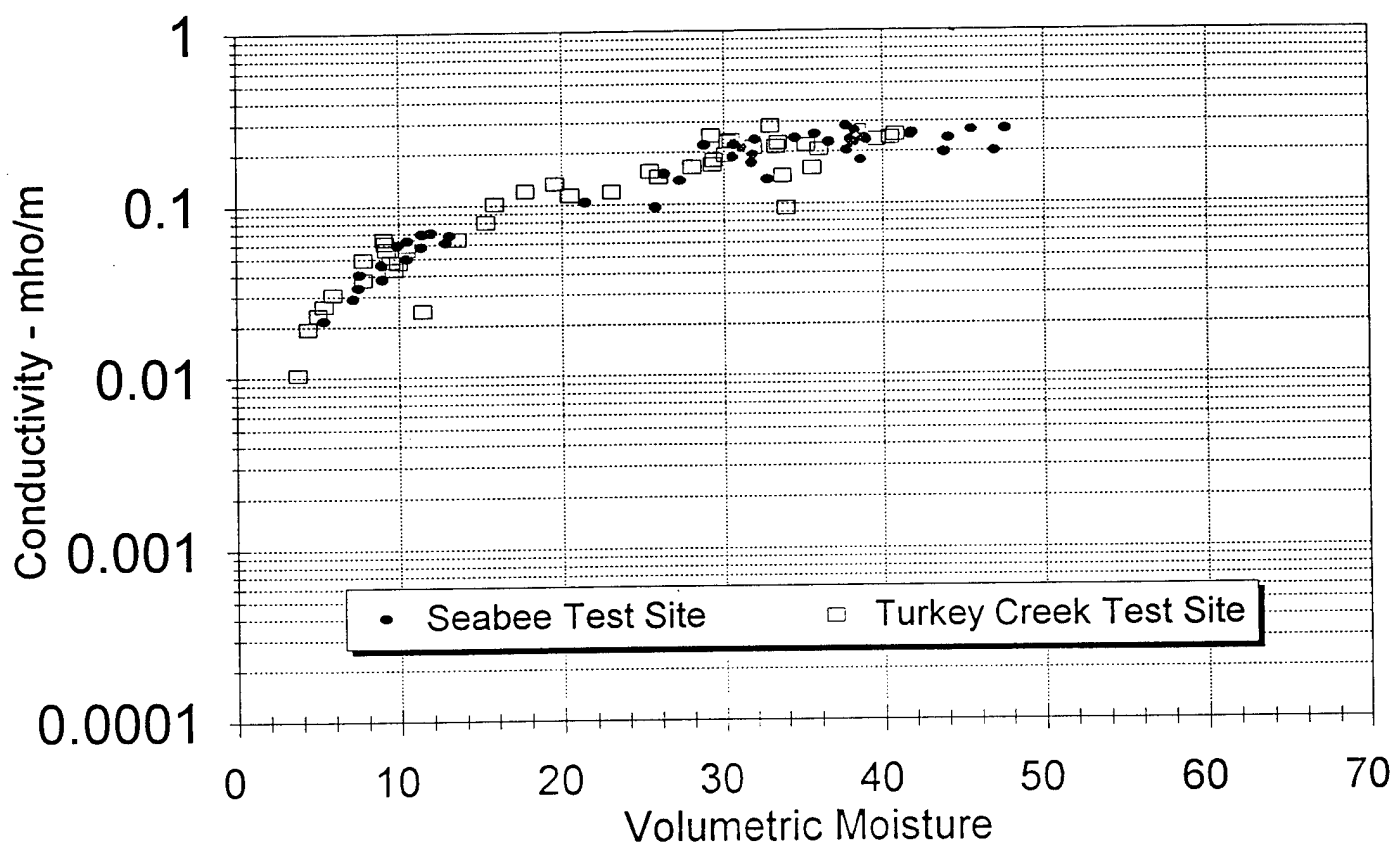
## Properties at 895 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

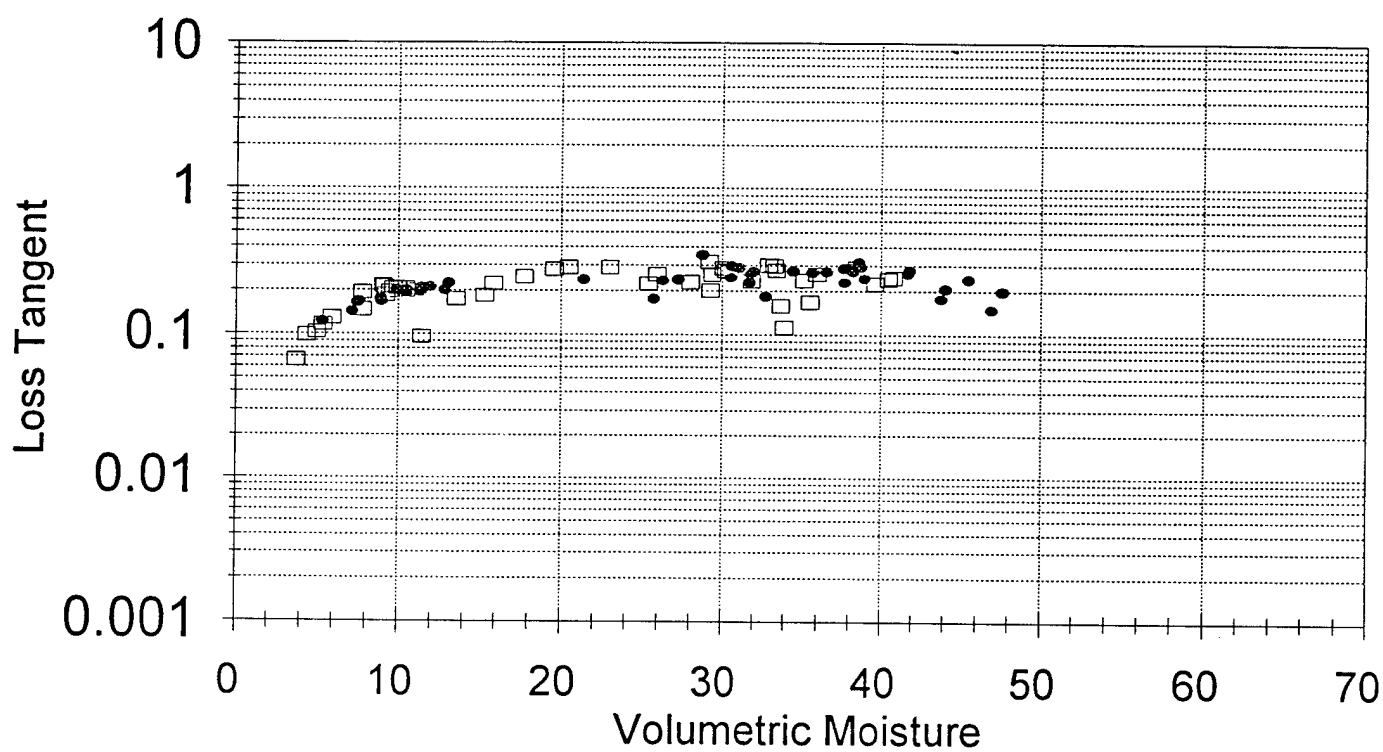
# Fort Carson\_3

## Properties at 895 MHz , All Depths



# Fort Carson\_3

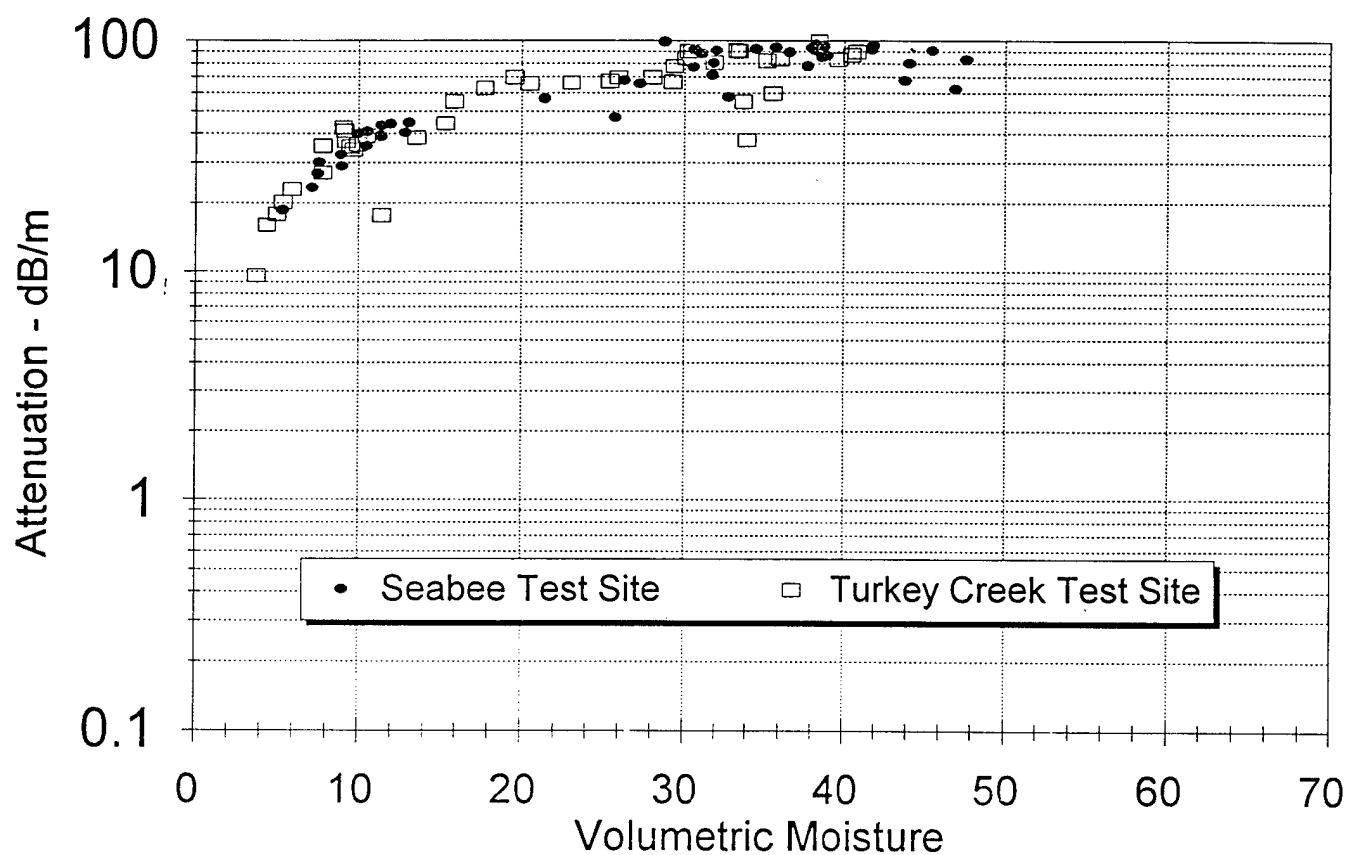
## Properties at 895 MHz , All Depths



• Seabee Test Site      □ Turkey Creek Test Site

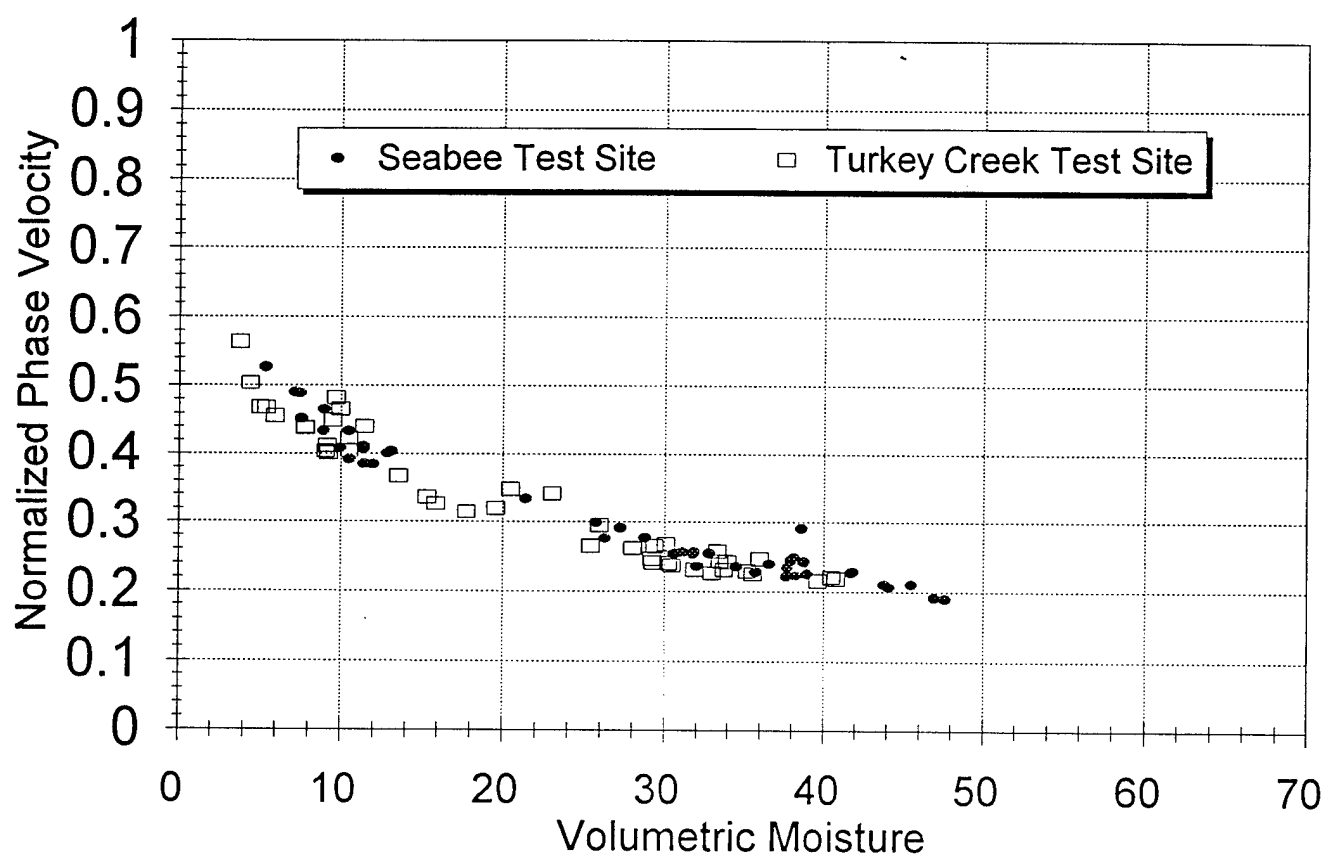
# Fort Carson\_3

## Properties at 895 MHz , All Depths

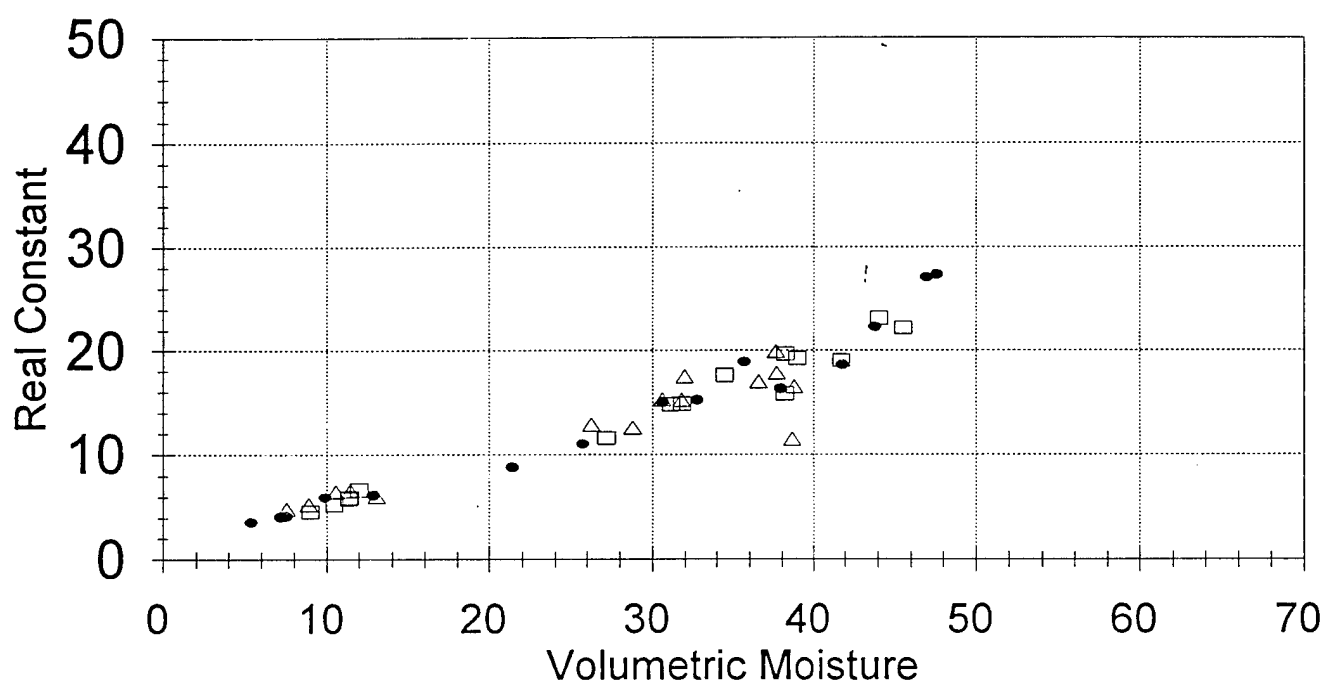


# Fort Carson\_3

## Properties at 895 MHz , All Depths



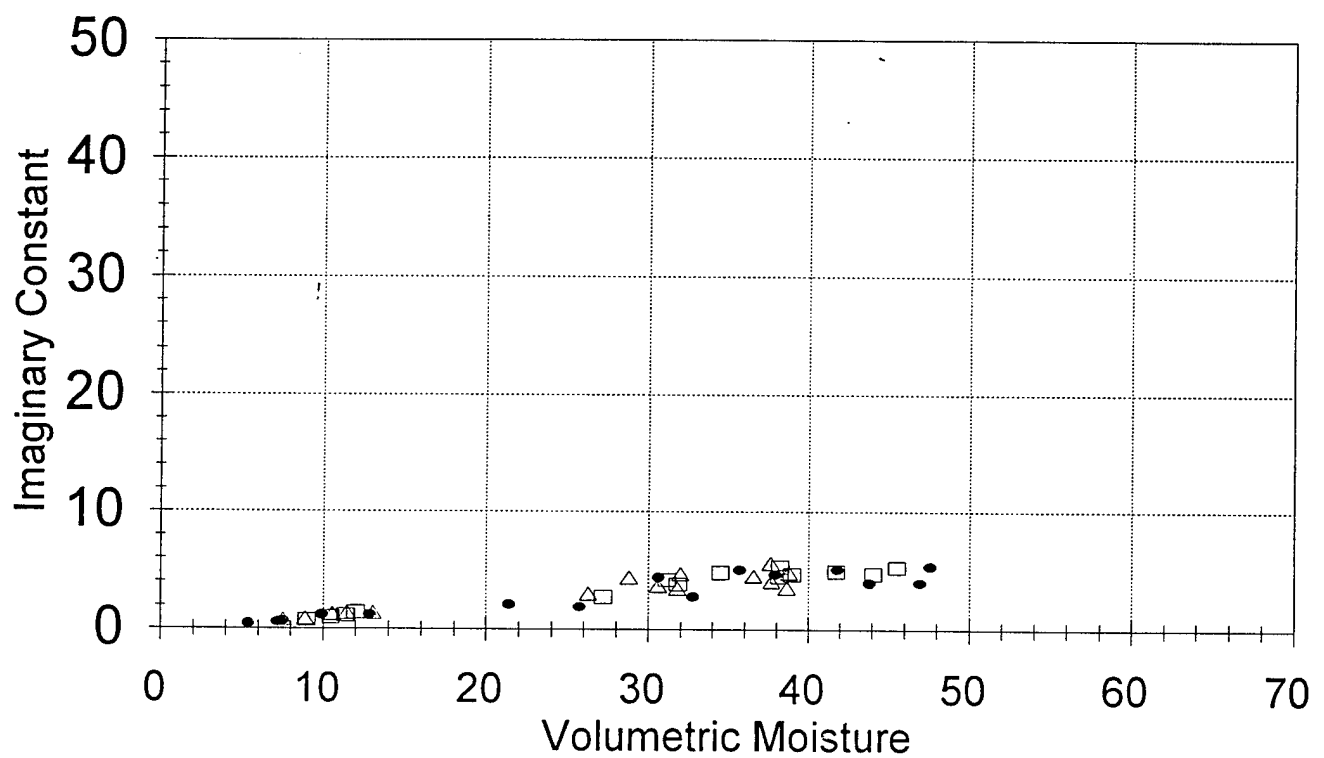
## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth



• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

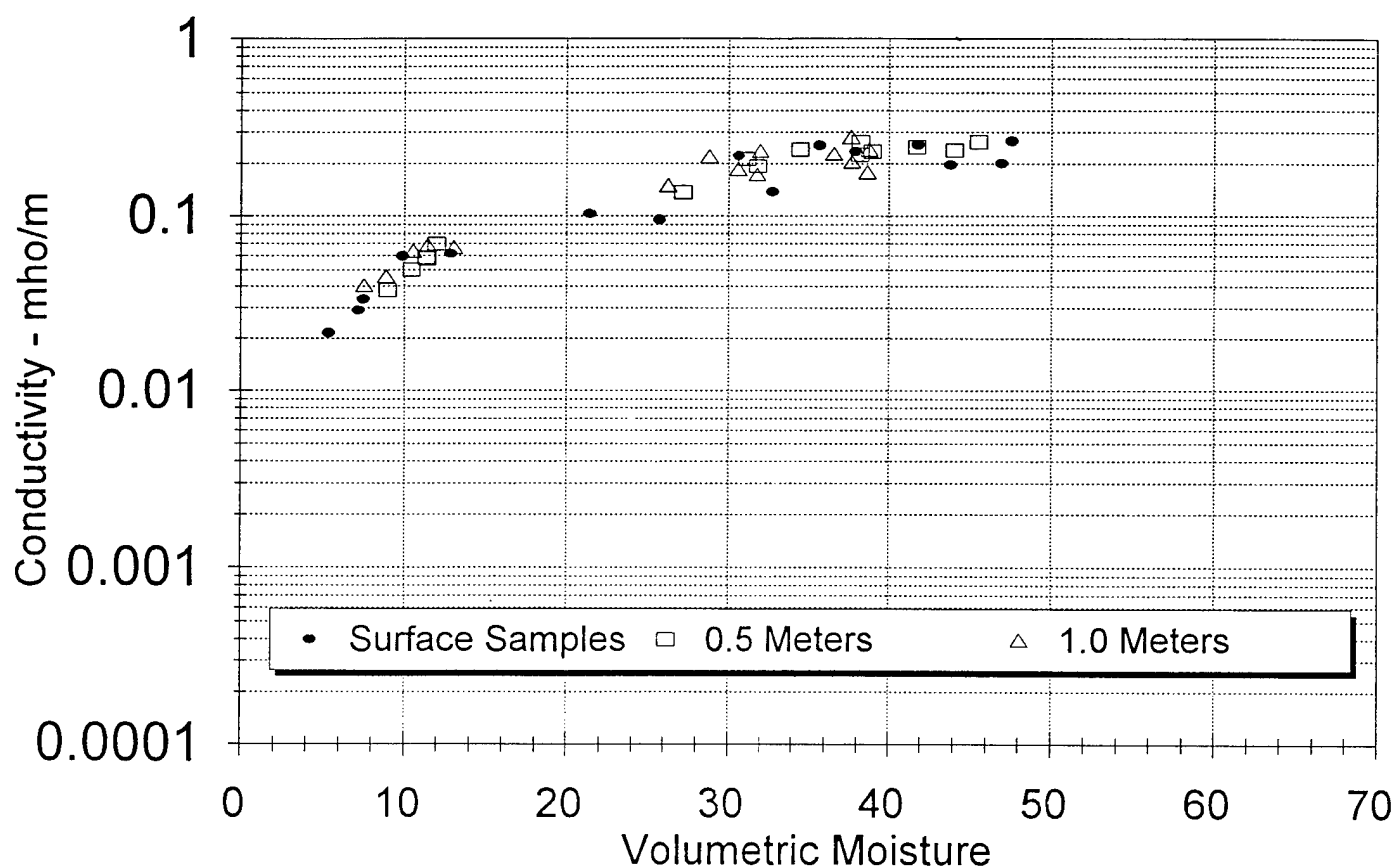


## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth

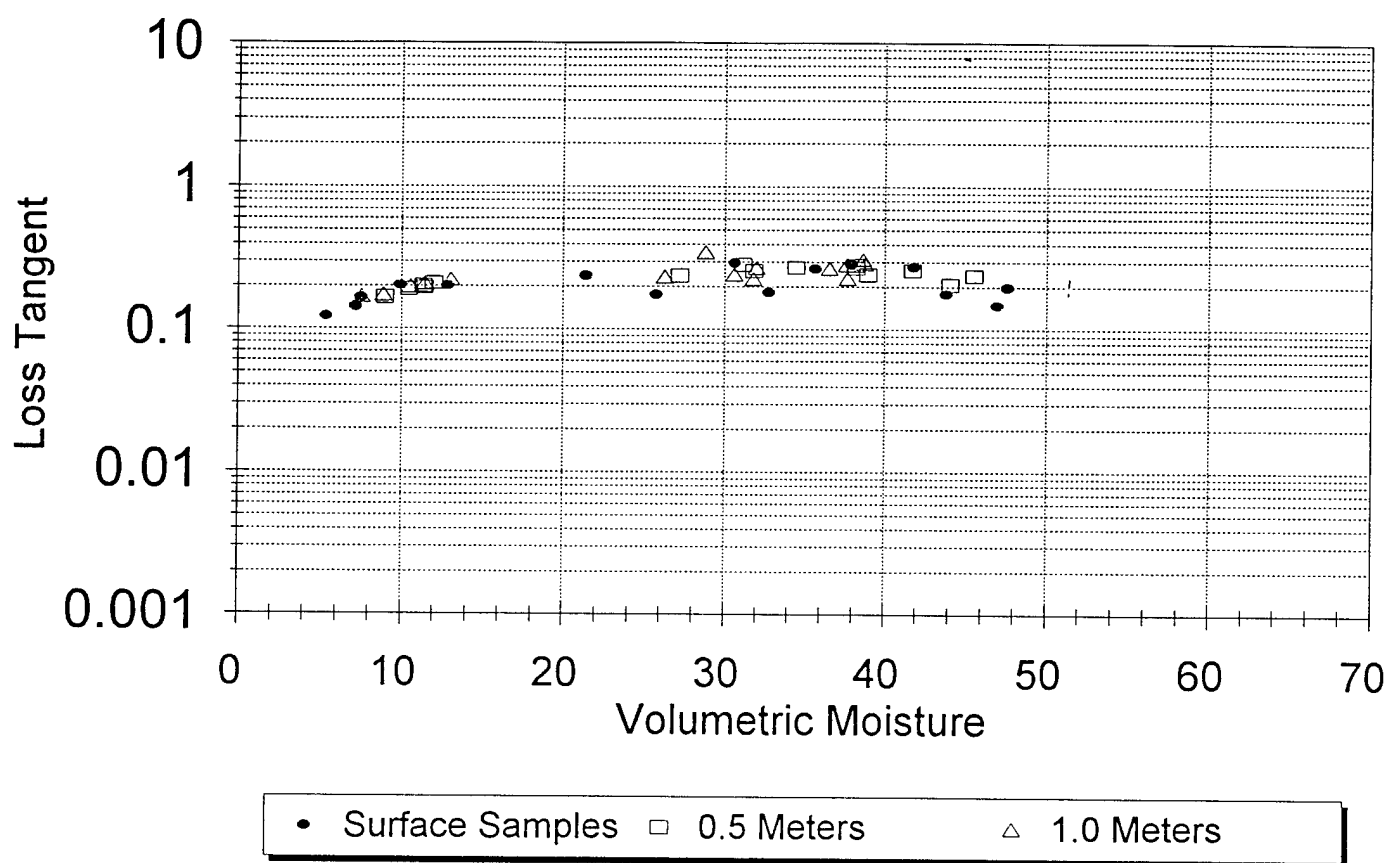


• Surface Samples    □ 0.5 Meters    △ 1.0 Meters

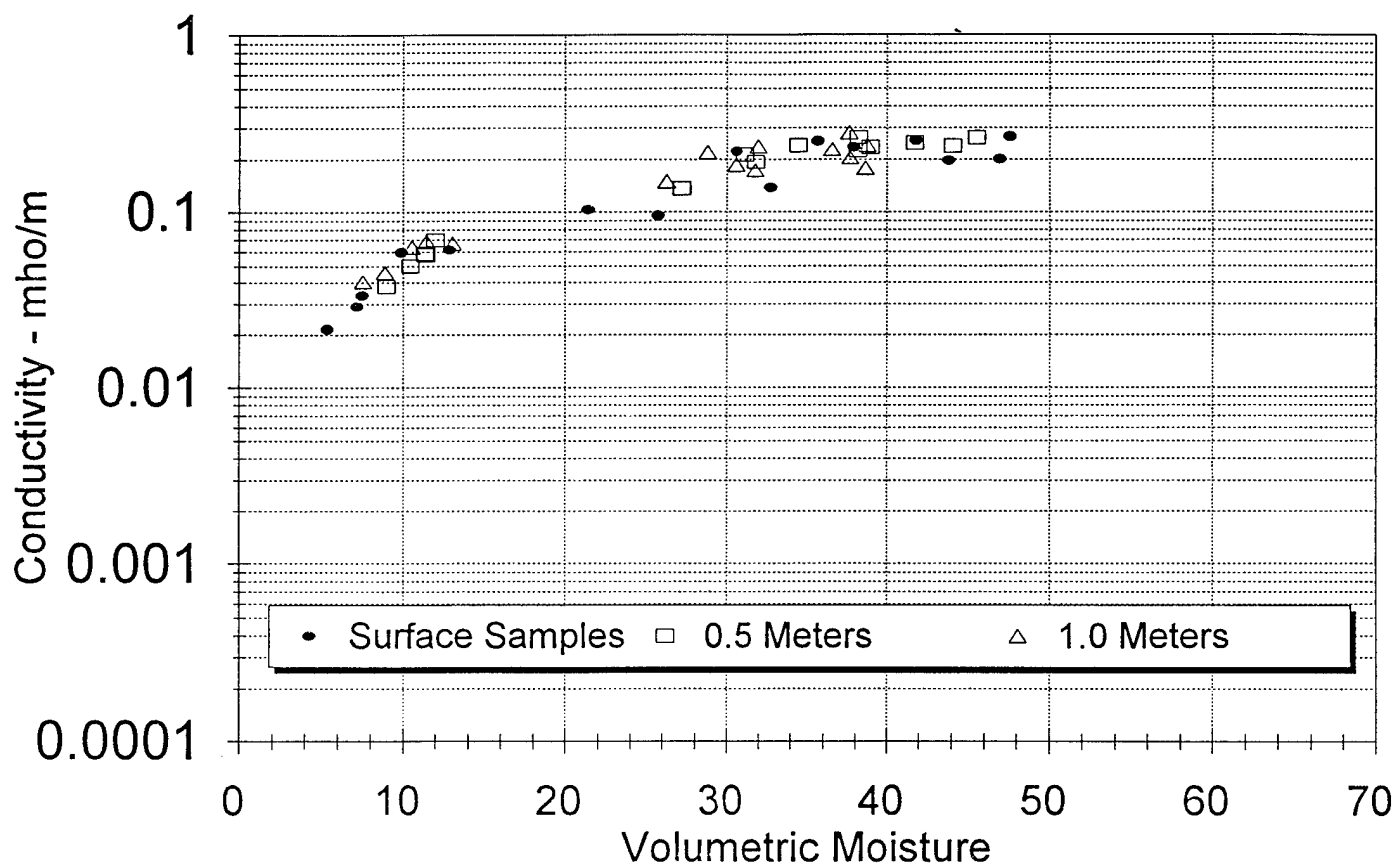
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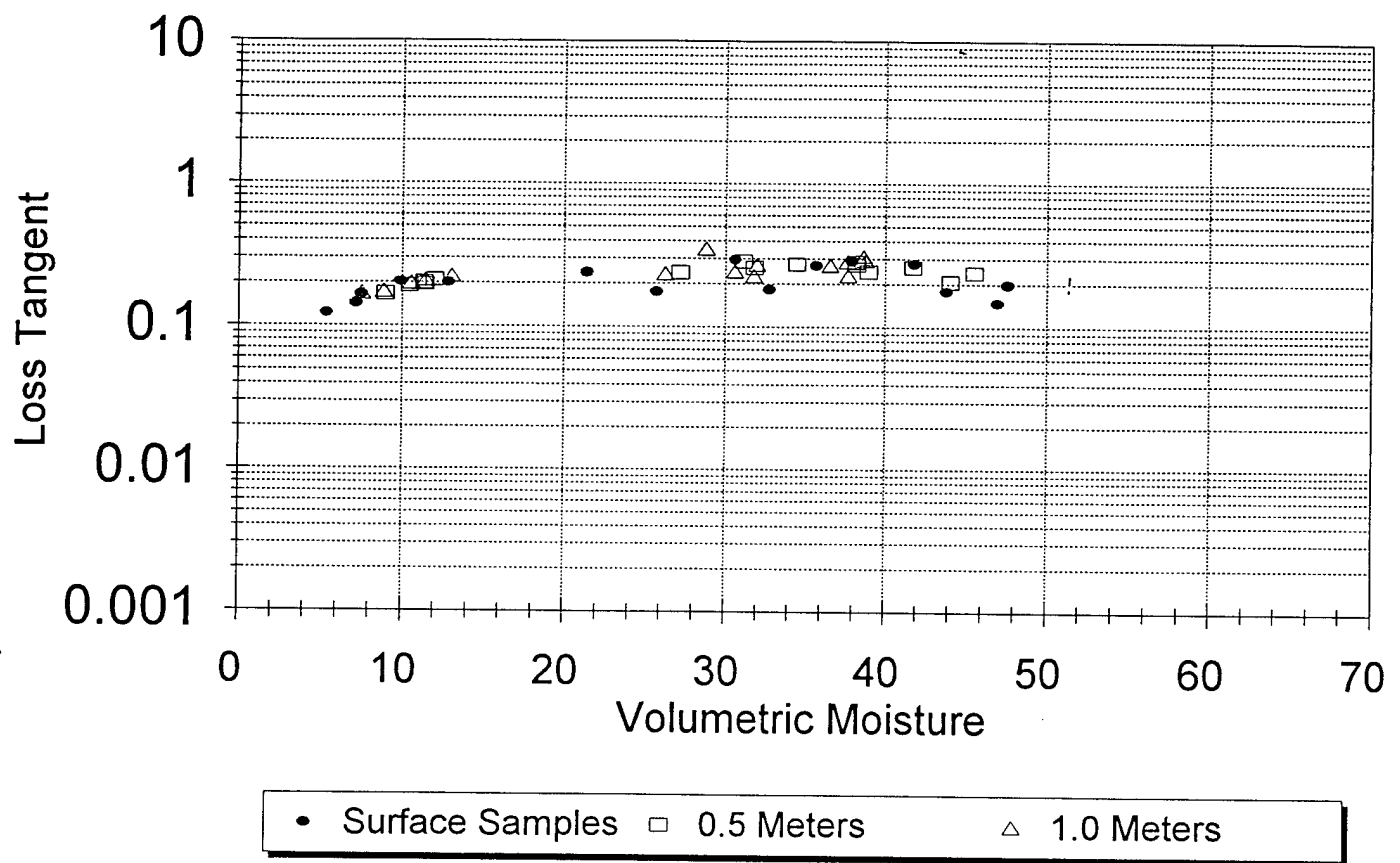
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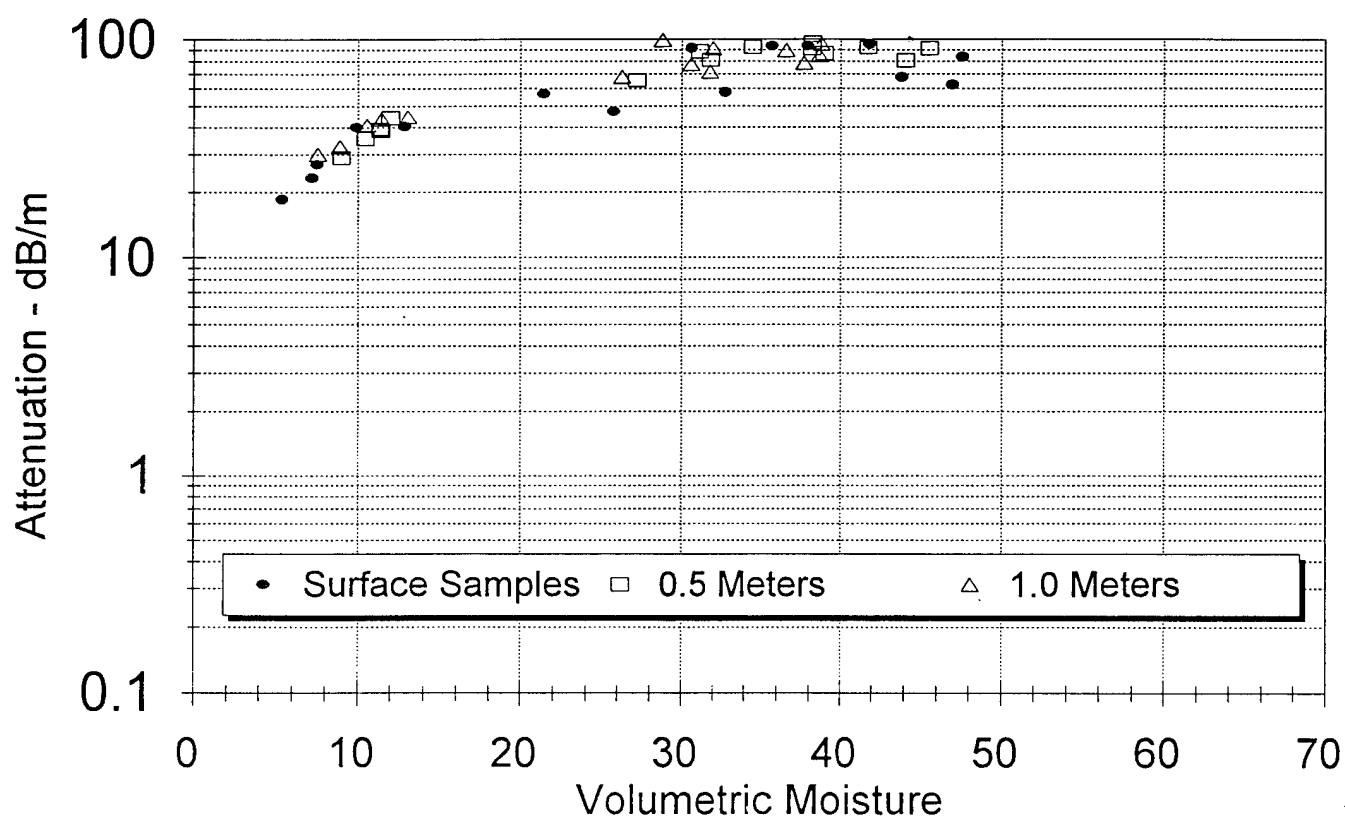
## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth



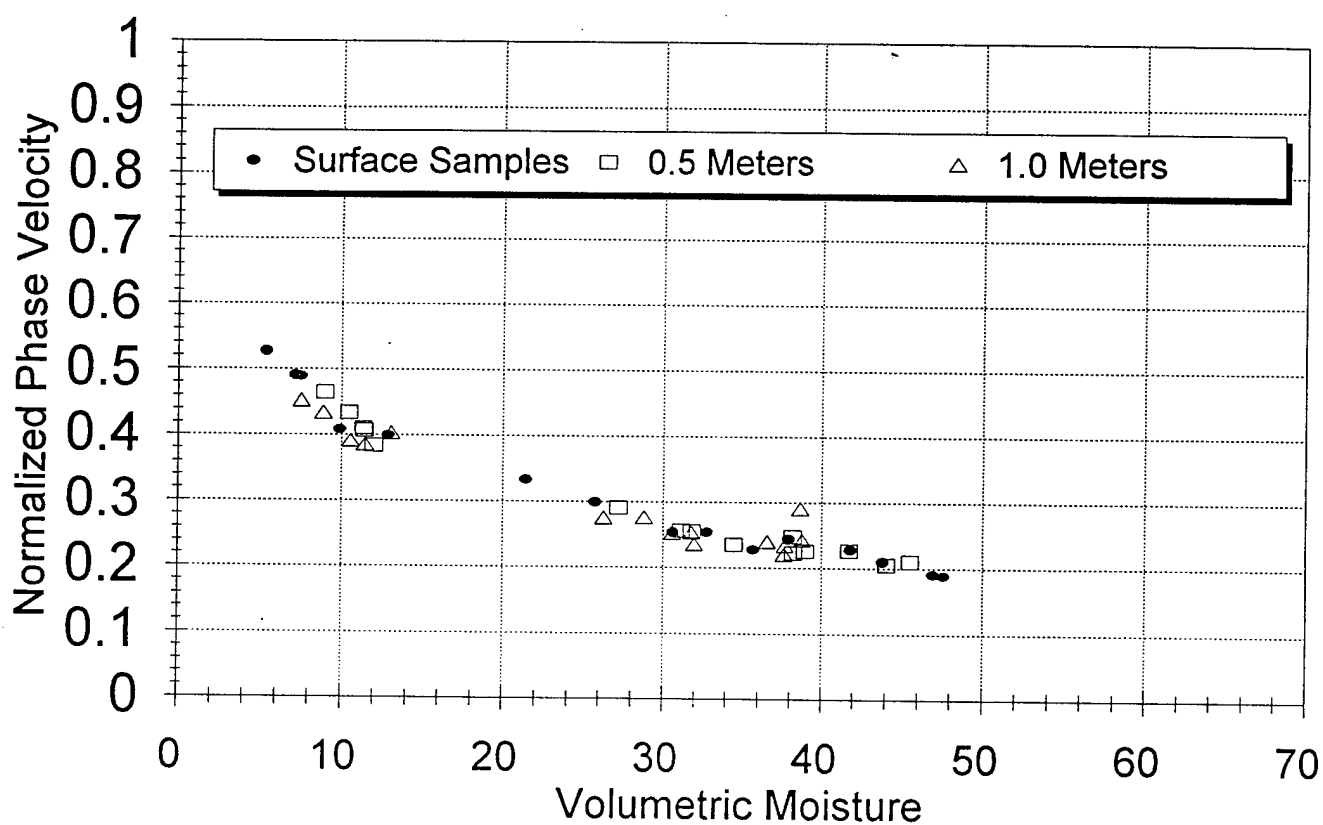
## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth



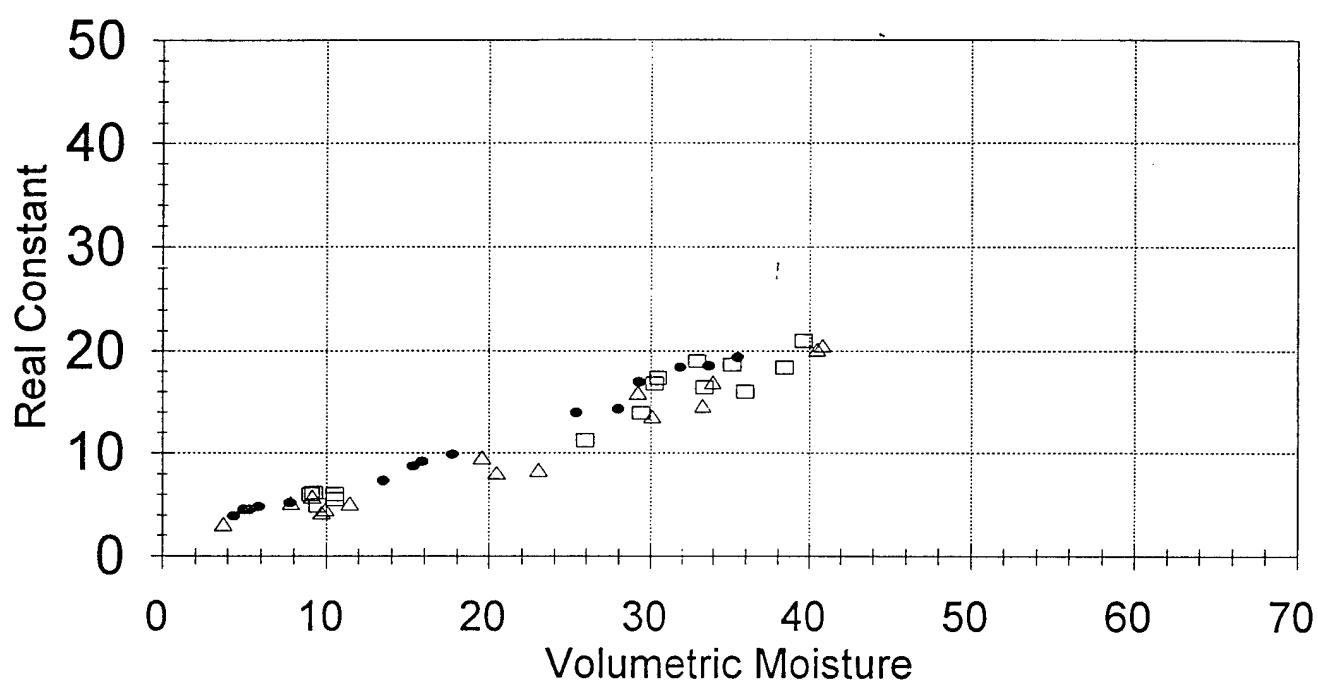
## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth



## Fort Carson\_3 , Seabee Test Site Properties at 895 MHz by Depth



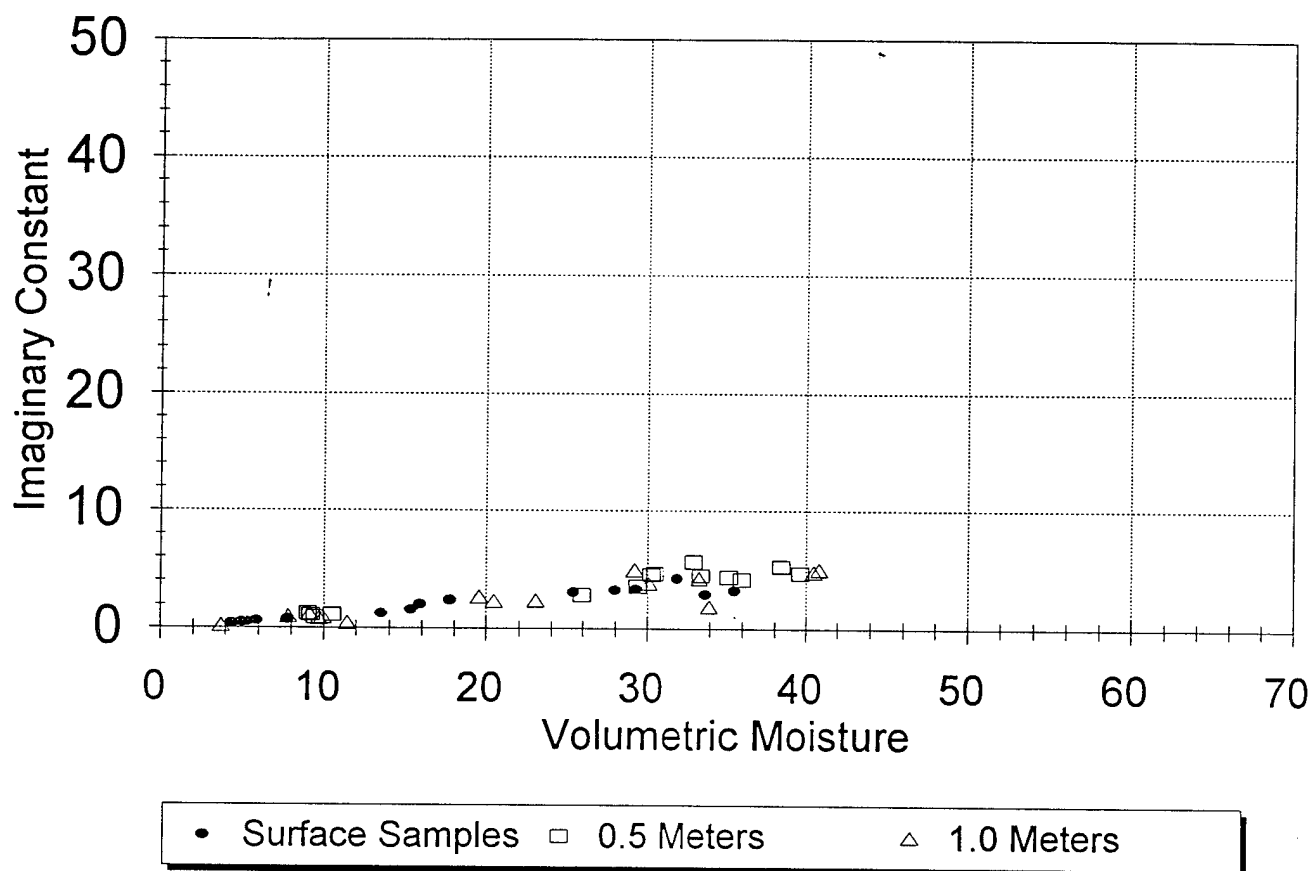
## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth



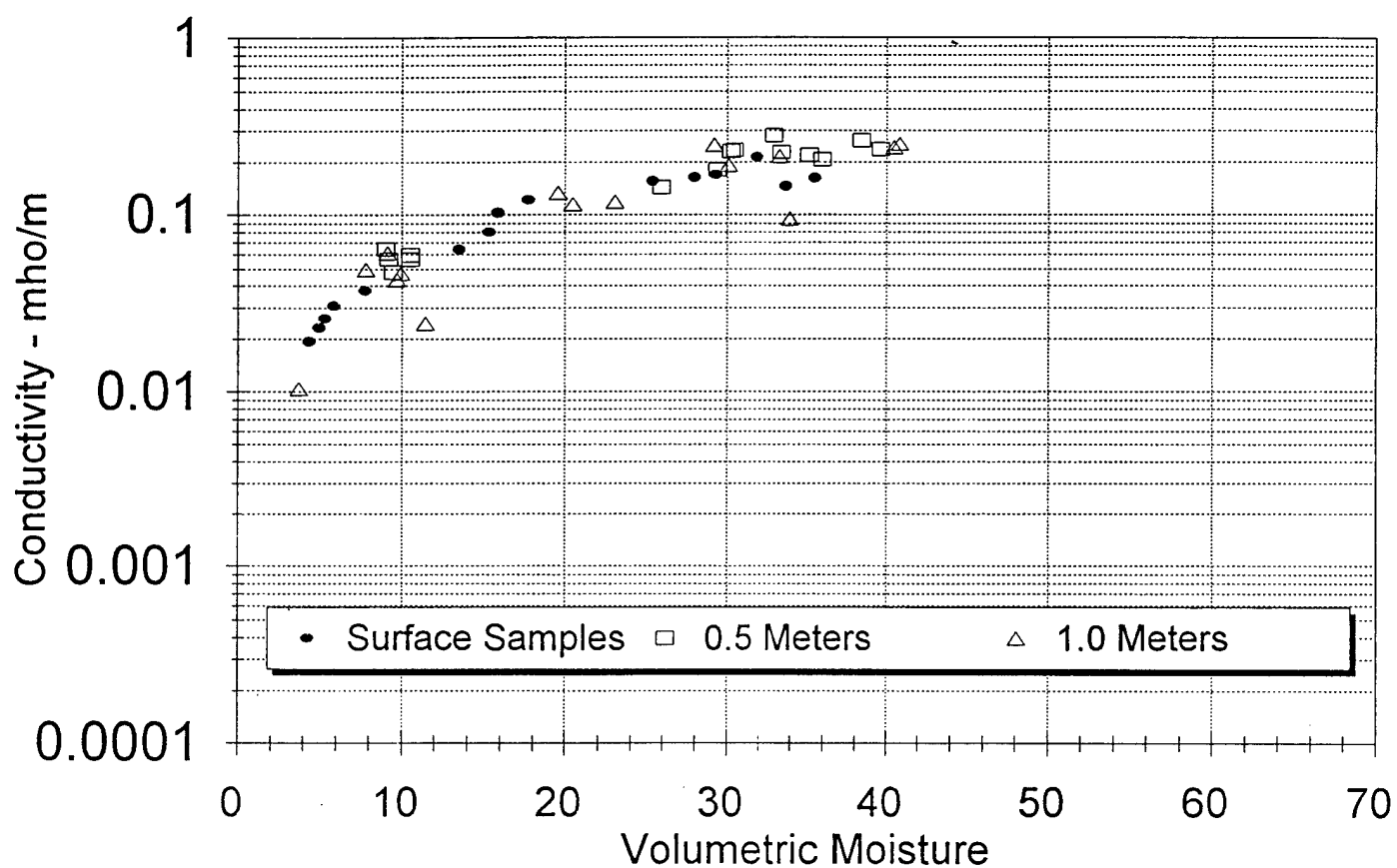
• Surface Samples    □ 0.5 Meters    △ 1.0 Meters



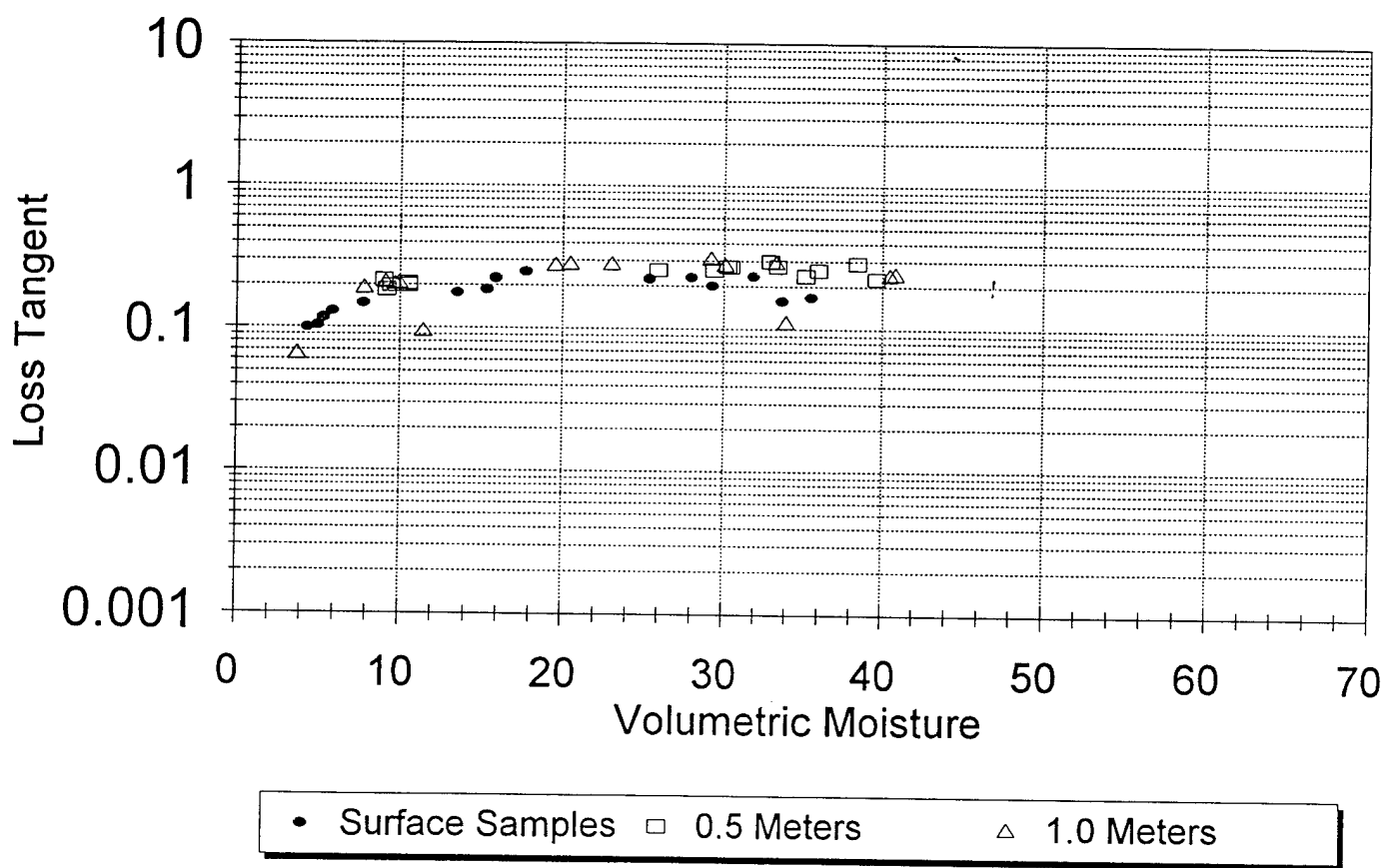
## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth



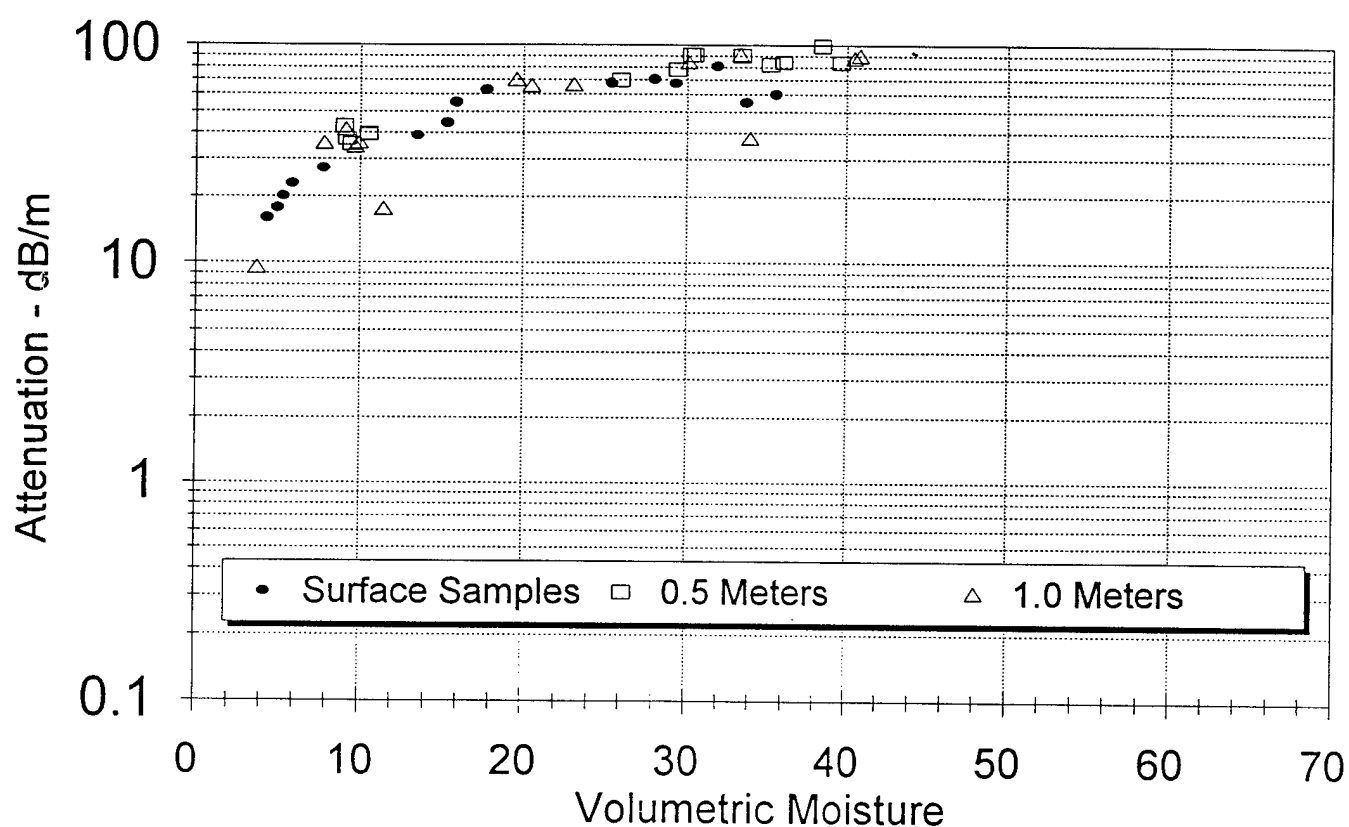
## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth



## Fort Carson\_3 , Turkey Creek Test Site Properties at 895 MHz by Depth

